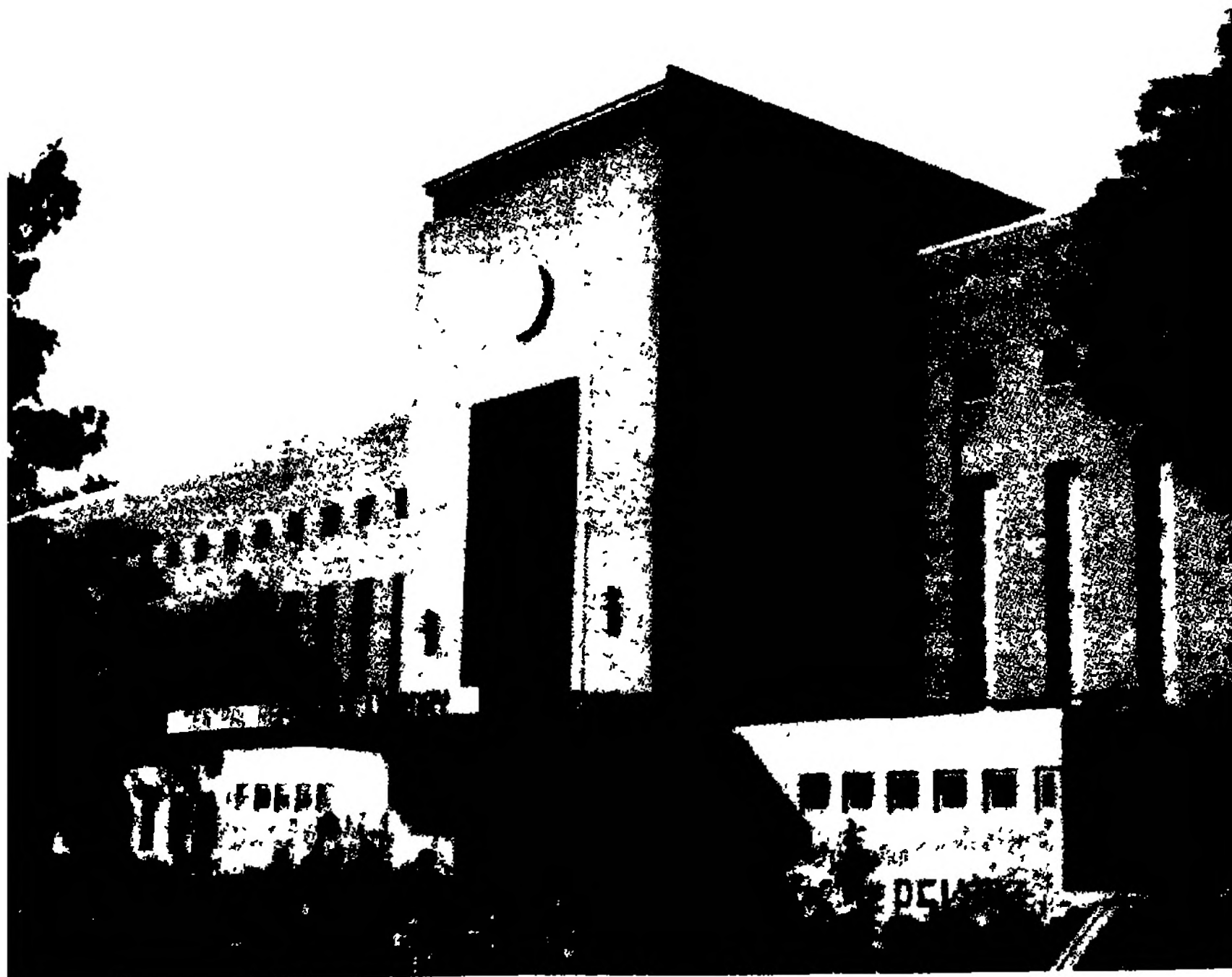


University News

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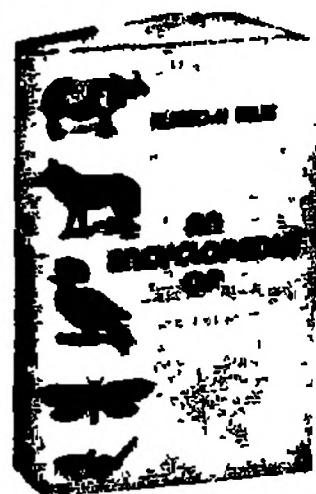
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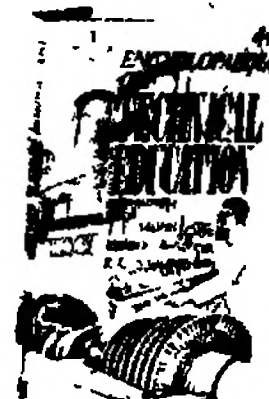
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MITTAL PUBLICATIONS, A-110, Mohan Garden, NEW DELHI-110059 (INDIA)

UNIVERSITY NEWS

VOL. XXXI DECEMBER 20
No. 51 1993
Price Rs. 5.00

**A Weekly Chronicle of Higher
Education published by the
Association of Indian Universities**

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do not necessarily reflect the policies
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**Editor :
SUTINDER SINGH**

UNIVERSITY OF DELHI

Prospect and Retrospect

**University of Delhi plays host to the 68th Annual Meeting of the
Association of Indian Universities being held on Dec. 18-20, 1993.**

University of Delhi is unique among university institutions in the country. Established in February, 1922 as a unitary and residential university by an Act of parliament with a nucleus of three colleges, two Faculties and about 750 students the university, over the years, has grown into one of the largest universities in India. It has now seventy one colleges, fourteen faculties, eighty one Departments and more than a lac and eighty thousand students on its rolls.

A unique feature of the University of Delhi is its multi campus system in which each campus can draw strength from the overall system and yet differentiate itself by developing a distinct role and also provide a sharper focus on a carefully chosen cluster of emerging disciplines of study.

The University of Delhi continues to maintain its all India character as reflected in the composition of its student body and faculty. Its library system which is one of the best in the country continues to attract scholars and academics from all around the world who are engaged in research in varied fields of study. The excellent academic and research contributions made by its faculty have enabled the university to get the distinction of having the largest number of advanced centers and special assistance programmes. The University of Delhi has an outstanding alumni who have enriched the social, economic, cultural and political life of the nation.

Historical Background

The real history of the University of Delhi began in 1922 when the Viceroy Lord Reading, who was the Chancellor, appointed Sir Mohammad Shafi as Pro-Chancellor and Dr Hari Singh Gour, a distinguished Barrister-at-Law from Nagpur as the first Vice-Chancellor. The Vice-Chancellorship, at that time was an honorary and part time office.

The First Convocation of Delhi University was held in the Legislative Assembly Hall in the old Secretariat Building on 26th March 1923 with 750 invitees. In his convocation address, Lord Reading said that Delhi was surrounded by history of kingdoms and empires.

"If environment has, indeed, its alleged influence, Delhi University should produce scholars, for around it are abundant signs of the cloisters where the feet of other scholars in the centuries have tread":

In the year 1933 an important step was taken towards the development of the University when the Government of India handed over the old Vice-Regal Lodge Estate for housing the University.

In 1938, Sir Maurice Gwyer, the first Chief Justice of the New Federal Court was appointed as the Vice-Chancellor. With his appointment, a new phase began in the history of the University of Delhi. In 1939, Sir Maurice Gwyer submitted to the Government of India, a memorandum for an All India University for Delhi. He conceived of Delhi University as a miniature Oxbridge type of institution, with a cluster of small residential colleges on the campus around the core of the University. While circumstances did not allow Delhi University to

develop along these lines, there were various reforms introduced by Sir Maurice Gwyer which had a lasting impact on the growth of the University of Delhi.

In Maurice Gwyer the University found a man with a vision and ability to carry his schemes through. He had a long tenure of 12 years as Vice Chancellor which enabled him to translate many of his ideas into reality.

Silver Jubilee

The Silver Jubilee year of the University saw the country attain its independence. The University celebrated Independence Day with Dr V.K.R.V. Rao hoisting the national flag on the University main building and Dr Radhakrishnan hoisting it on the Law School building. Sir Maurice Gwyer, who was then in Kasauli, sent a message :

"The new India will open still wider horizons for this University of which, I hope that it will always remain a real all India University in the cultural sense. I hope too that it may become one of the most important cultural links between India and the outside world".

Partition and Aftermath

Subsequently the partition in August 1947 and the large scale migration to Delhi changed the character of the city. The population doubled between 1947 and 1961. Consequently there was pressure for more admissions and the University was obliged to adopt some new regulations and relax some of the existing ones. The original conception of the university as a Federal university underwent a change. New colleges were established outside the campus. Departments grew in size and numbers. Several new Faculties such as Faculty of Education, Central Institute of Education, Delhi School of Economics, etc. were set up.

Dr V.K.R.V. Rao who became the Vice-Chancellor in 1958 established several new Faculties and Departments such as Faculty of Music and Fine Arts, Departments of Sociology, Human Geography and several others. The new Library building was inaugurated by Dr S. Radhakrishnan in 1958.

A new phase began in the Sixties with the University experiencing a growing pressure of numbers. To ease pressure of growing numbers the University adopted various measures. The University of Delhi was the first university in the country which started distance education programme in the form of correspondence courses during this period. Subsequently in 1970 the University also permitted students who had passed the Higher Secondary Examination to appear as external candidates. Alongside the Non Collegiate Women's Education Board

was also further strengthened to be of greater help to a large number of non collegiate women students to pursue their courses of studies.

In 1962 Dr C.D. Deshmukh joined the University as the Vice-Chancellor and during his tenure several new departments — Linguistics, Chinese Studies, Bengali, Geology and others were established. He took active steps to draw up a plan for establishing another university to meet the growing demand for admissions to various courses. However before the proposal could be considered at the Government level the nation lost its illustrious Prime Minister Jawaharlal Nehru. In the meeting of the Select Committee of the entire concept of the new university was changed, as this university was to be named after Jawaharlal Nehru. The aim and object of giving relief to Delhi University thus could not be achieved.

Multi-Campus System

In an effort to cope with the enormous expansion, while continuing to maintain its high academic standards, the university initiated measures towards the establishment of a multi-campus system during 1973 when Dr Sarup Singh was the Vice-Chancellor.

South campus was established in 1973 which is developing a distinctive role and character for itself by focussing on inter-disciplinary and applied sciences and applied social sciences and humanities apart from teaching and research in ten basic disciplines. Some of the new courses introduced in its various teaching and research programmes include: Electronic Sciences, Biochemistry, Genetics, Microbiology, Biophysics, Plant Molecular Biology, Public Systems Management, Financial control, Business Economics, Environmental biology, etc.

East campus will be developed with the University of Medical Science as its nucleus while the West Campus will focus on sciences related to Engineering and Technology.

Faculties and Departments

Sciences

The University of Delhi has been giving special attention to science teaching and research. The Faculty of Science which came into existence along with the establishment of the University in 1922 started with the Departments of Physics and Chemistry. The Departments of Botany, Zoology and Anthropology were added in 1946. The newly emerging disciplines of Earth Sciences was started with the establishment of the Department of Geology in the year 1966.

The University of Delhi under the stewardship

of its learned Vice-Chancellors attracted talented scholars from all over the country. Special mention may be made to Prof. D.S. Kothari in Physics, Prof. T.R. Seshadri in Chemistry, Prof. P. Maheswari in Botany, Prof. Seshachar in Zoology.

Under the active guidance of these scholars, the Departments were put on a firm footing to achieve international excellence. Under the guidance of Prof. D.S. Kothari research in Theoretical Physics was initiated and contributions in Statistical Physics, Astrophysics and Field Theory gained international recognition. The Department of Physics which was earlier recognised as a Centre of Advanced Study in Theoretical and Astrophysics came to be recognised as the Centre of Advanced Studies in Physics and Astrophysics.

Similarly, under the stewardship of Prof. T.R. Seshadri and his successors major contributions were made in the field of Chemistry of Natural Products and also in the field of Inorganic Chemistry which received recognition both in India and abroad.

The Botany Department of Delhi University was the first to establish a Plant Tissue Culture laboratory in India which acted as a catalyst for the establishment of such facilities in other universities and research institutions. Similar contributions have been made by the departments of Zoology and Anthropology. The full-fledged Animal House established in the Department of Zoology and the Museum developed in the Department of Anthropology with a rich collection of specimen and materials brought from different regions of India and parts of Asia and Africa, are noteworthy to mention here.

The comparatively younger Department of Geology established in 1966 is doing excellent work in the newly emerging field of earth sciences.

Apart from getting recognition as Centres of Advanced Studies by the University Grants Commission, most of the Science departments have also undertaken specific projects for different agencies like DST, CSIR, DOE, ICAR, ICMR, etc

Humanities

The Faculty of Arts in its early stages included all departments except Physical and Biological Sciences and professional courses. Subsequently, however, two major changes took place in the set-up of the Faculty of Arts i.e. in 1949 a separate Faculty of Social Sciences was established and in 1964 a Faculty of Mathematics was created which currently includes the Departments of Mathematics, Mathematical Statistics, Operational Research and the Department of Computer Science.

The Department of Business Management which used to be under the Faculty of Social Sciences for almost a decade evolved into an independent faculty known as the Faculty of Management Studies in the year 1972. The Faculty offers its prestigious MBA full time and part time programmes in addition to conducting advanced research in management and administration. During 1984 with generous endowment fund given by the management of Bennet Coleman & Co., the S.P. Jain Advanced Management Research Centre was started at the South Campus where the Faculty offers currently, MBA programmes with specialisation in Public Systems Management.

The department of Commerce has grown tremendously since its inception and during the last decade or so it has become one of the biggest departments of the University. In 1993 the Department of Commerce was upgraded into a Faculty of Commerce and Business.

The Departments of the Faculties of Arts, Social Sciences and Mathematics have maintained over the years very high standards of scholarships and have been attracting students from all over the country for almost all the postgraduate courses.

Delhi School of Economics has established itself as a leading institutions in the country and continues to enjoy a very high reputation nationally and internationally for its high academic standards both in teaching and research.

The Department of Sociology, another premier department of the University has established a strong tradition of empirical research while opening up conceptual and theoretical areas.

The Department of Geography has devoted attention to problems in the area of environment and to urban and regional planning.

Faculty of Law

The Law Faculty has been pioneer in the development of legal education in the country. Its major areas in research are in the fields of Constitutional Law, Administrative Law and Jurisprudence. Publications of the faculty have received international recognition.

Faculty of Education

The Central Institute of Education after its merger has now become the Department of Education of the University of Delhi. It has played a major role in the development of teacher education in the country.

Faculty of Music and Fine Art

Established in 1958 the Faculty of Music im-

parts courses both in Hindustani and Carnatic music and also conducts M.Phil and Ph.D. programmes.

Faculty of Inter-disciplinary and Applied Sciences

The new faculty known as the Faculty of Inter-disciplinary and Applied Sciences was established in 1985 at the South Delhi Campus. The disciplines under the Faculty are Bio-Chemistry, Microbiology, Genetics, Environmental Biology, Plant Molecular Biology, Electronic Science, Biophysics, etc. Though a small beginning has been made in these disciplines the University is making efforts to provide additional building, equipment and other facilities with a view to conduct and strengthen these courses at South Delhi Campus.

Centres of Advanced Studies

Six departments of the University of Delhi, namely, Botany, Zoology, Physics, Chemistry, Economics and Sociology are being recognised as Centres of Advanced Studies by the University Grants Commission. In addition more than a dozen departments have been identified for Special Assistance by the University Grants Commission.

Centre for Science Education and Communication

Centre for Science Education and Communication was established during the period of VII Five Year Plan. The purpose of the Centre is to strengthen several new areas of study and inter disciplinary programmes. It seeks a wider role for relating its scientific activities to society through the establishment of Centre for Science Education and Communication.

Centre has been successful in developing several low cost instruments and organising several workshops/demonstrations and seminars.

Centre for Professional Development and Higher Education

The University has already set up a Centre for Professional Development and Higher Education with a view to provide the teachers opportunities for professional and career development and to encourage greater cross fertilisation of ideas among the teachers and researchers belonging to different departments, colleges and faculties. The Centre organises orientation, refresher and appreciation courses of varying duration based on a discipline within inter-disciplinary framework on selected techniques and methodologies. It helps the teachers of the University to keep themselves abreast of the latest development in the field.

Centre for Human Resource Development

Centre for Human Resource Development trains administrative personnel, arranges orientation programmes and undertakes action research on specific administrative problems faced by the University. It has already organised several programmes for the benefit of administrative personnel covering Deputy Registrars, Assistant Registrars, Section Officers belonging to not only Delhi University but also other universities outside Delhi.

The University is also engaged in modernising its administration and establishing Management Information System to improve decision making process at the University.

Computerisation for Improved Learning and Research

Attempts are being made to improve teaching and research by setting up of the main frame computer system and encouraging interactive learning through computer at instructional level and also by providing higher level computational facilities for research.

The Computer Centre of the University of Delhi in addition to helping the teachers and researchers in their research work organises several short-term courses and training programmes for the benefit of both academic and administrative staff.

Sports Development

The students of the University of Delhi have distinguished themselves in several cultural and sports activities. University of Delhi has been the recipient of the Maulana Abul Kalam Azad Trophy for three consecutive years. In addition, the students have actively participated in National Cadet Corps and National Service Scheme and other similar programmes.

During the past seventy one years the University of Delhi has grown and developed into one of the major universities in the country. It has earned its reputation by its contribution to teaching and research. The alumni of the University have excelled in all walks of life. It has introduced several innovative programmes in different areas of study. In the years to come the University will continue to contribute to maintain academic excellence in imparting higher education and performing research work of high standards in different areas of study. It will endeavour to preserve its All India character by drawing talents both for its faculty and its students from all over the country and abroad. As we approach fast the twenty-first century the University of Delhi has many new challenges to face and many new tasks to accomplish.

Higher Education at the Crossroads

Shreesh Chaudhary*

For the first time since its establishment by an Act of Parliament in 1959, the Central Institute of English and Foreign Languages (CIEFL), Hyderabad has not offered to pay any travelling allowance to applicants appearing at interviews recently for faculty positions. That restricts the Institute's selection to candidates from one city alone rather than from the entire country. Theoretically, at least, it is the beginning of reducing this national institute to a local one.

That one can say, is also the beginning of the end of this institute. Travel support to teacher trainees and research scholars joining this institute was stopped a few years ago. Number of research fellowships available at this institute has also been reduced from nearly 20 to two.

Many universities are making no new appointments, not even to faculty positions. University libraries are confused, clipping their list of subscriptions to journals. No body really knows which journal is essential and which is trivial or peripheral — the terms which librarians want the faculty members to use to classify these journals. Sometimes it has led to acrimonious discussions and allegations of dropping journals in areas not of interest to the heads of departments and institutions. After the devaluation of rupee last year, import of books has become almost prohibitive. Even books published in India are being acquired very selectively. But, at the same time, there are pressures to admit more students and offer more courses. Such measures are becoming unavoidable to survive severe cuts in financial grants to universities and other institutions.

In his budget speech this year the Union Finance Minister Dr. Man Mohan Singh said, "education is close to my heart". Yet the entire Dept of Education, including primary, secondary, adult and technical education, has been given only Rs. 1,310 crores, which is only 0.67 percent of the entire estimated expenditure by the Union Govt. this year. This is perhaps the lowest ever percentage allocated for education.

Provision from this account has to be made for

**Humanities & Social Sciences Department,
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nearly 25 central and deemed universities, for setting up an Urdu University, for converting Ambedkar Lucknow University into a central university (both announced by Mr Arjun Singh, Minister for Human Resources Development), for setting up an Indian Institute of Technology (IIT) at Guwahati (foundation stone was laid by Prime Minister Narasimha Rao last year itself), for the University Grants Commission (UGC), the Association of Indian Universities (AIU) and such other educational bureaucracies, for central assistance to nearly 170 universities in states, 25 regional engineering colleges, national libraries, and for central initiatives in primary, secondary and adult education, sports, and lots of other bodies and things. It should not be difficult to see how generous the finance minister has really been to his beloved!

Crippling Compromises

Nearly all central and state universities, deemed universities and research institutions and laboratories are suddenly finding themselves compelled to make crippling compromises on quality and standards. The government has suddenly asked them to fend for themselves without considering if they are structured and equipped for this, without giving them enough time and resources to change for this. We can as well ask Russian companies to take on the Japanese!

In spite of a non-serious treatment from successive governments in independent India (Indira Gandhi, for instance, rarely had a cabinet rank minister for education, and even in the best of times, i.e. the days of Jawaharlal Nehru, education never got more than two percent of the total budgeted expenditure, though Radhakrishnan Commission and Kothari Commission and other bodies had recommended much more), higher education has performed quite well compared with other spheres of national investment.

India supplies a large number of white and blue collar workers to countries from Singapore to those along the Persian Gulf. Indians, educated in India, are present in sizeable numbers in Western Europe and North America too. India itself may have had to import other things, but not many educated workers, engineers, managers, accountants, doc-

tors, teachers, planners, trainers, research scientists and the like. They have all come from our own universities.

But the only source of finance our institutions of higher education have ever known is government, state or central. Unlike the British, Indian universities do not have a proper system of awarding honorary degrees for donations and endowments. Neither, unlike North American universities, do they have hefty endowments, real estate, cash deposits, company shares, product and research patents, book business, commercial consultancy, profits from property, lease and rentals, from seminars, conferences, and special lectures, from concerts, lunches and dinners, sports and other entertainments, and cost-effective course fees.

Our universities have not been run like business enterprises. They have been run like organs of a welfare state, benevolent, generous, self-effacing channels of investment in human resources. In fact, until 1989, when Rajiv Gandhi government went out, the universities were being told to worry only about their curricula, not much about their finances. The New National Education Policy (NEP) was in the air, the Ministry of Education itself had got the fashionable name of the Ministry of Human Resources Development (MHRD), and the universities were expected to attain state of the art in sciences, to train their graduates for self-employment, and to help create a secular and nationalist outlook, some of the main objectives of the NEP.

But in less than four years, the Ministry, with the same name and the same style of operation, is asking these institutions to become self-financing and compete globally, etc. *Our universities are suddenly finding themselves at the crossroads — go commercial, which they know not how to, or decline into non-existence, which does not seem impossible*

Though an impression has been created that our universities are no good, there is enough talent and experience at most universities to help them take this challenge and regain a respectable status. But it will take some time, some money, some business acumen and radical changes in their administrative and academic structures to enable these institutions to accomplish this.

Presently most of them are like behemoths — burdened with huge redundancies and obsolescence. CIEFL, for instance, has nearly 75 teachers, less than 100 resident and nearly 500 part-time and

distance education students, and about 125 strong supporting staff. Most of its finance is spent on salaries and maintenance.

Its two regional centres at Lucknow and Shillong offer only short term courses two or three times a year. But the Institute maintains teaching and non-teaching staff, buildings and facilities there throughout the year. In addition, resource persons are also flown there when courses are on.

Like other Indian universities, its hostel accommodation, power, water and, to some extent, mess bills are subsidised. Faculty accommodation is also similarly subsidised. It has some cars, vans and drivers to bring and leave staff and visitors from and at various places, and a guest house to accommodate them. It also has sports, hospital and certain other facilities exclusively for its employees and students.

It has a wonderful library, with a collection of nearly 100,000 books and nearly 600 current periodicals on literature, linguistics and language teaching in Arabic, English, French, German, Russian and Spanish. It is said to be the best library of its kind outside Western Europe and North America. Naturally, therefore, there also is a generous complement of staff to manage this library.

For comparison, let us look at the Lancaster University Institute for English Language Education (IELE). IELE has 17 teachers, five members including a librarian on the supporting staff, gets about 1,000 students annually for short term, i.e. two to 24 week courses, and about 50 full time students and research scholars. In addition, it scouts around and takes consultancies from literally all over the world — Argentina and Brazil to France, Gabon, Ivory Coast, Japan, Malaysia, Philippines, Senegal, Spain, etc.

But its capital expenditure is quite low. When necessary, it uses cars and vans from the University's pool, driven by the indenter him/herself. It invites teachers from other departments and encourages its teachers to participate in programmes of other institutions and departments too, shares lecture halls and seminar rooms, guest house, computers and cafeteria, sports and health care facilities, library and lounges with other institutes and teaching departments at the university.

IELE charges 25 British Pounds Sterling (BPS),

i.e. Rs 1,000 approx, weekly for a single bed and shared kitchen-toilet accommodation, 1550 BPS, i.e. Rs. 72,000 approx, as fee for any 10-week course, plus many small payments of one to five BPS for the use of any facility, such as athletic track, sports complex, computer centre, hospital, library, and other things. But CIEFL still charges only Rs. 30 monthly for room rent, only Rs. 1,000 as fee for a four-month course from non-teacher trainee students, and no fees from teacher-trainees. Neither does it demand anything for the use of other facilities.

This comparison between CIEFL and IELE is true of many other Indian and British or American institutions of higher education too. Indian universities have been run like welfare bureaus, whereas the latter have been run like business houses — slim, agile and changing according to the realities of the market. Merely by wishing, Indian institutions cannot suddenly take on the world.

Our universities and other institutions of higher education can do so with support with the following — more funds for the present, much greater academic and administrative autonomy, and some publicity and public relations (PR) work.

Public Relations

Let us look at the third requirement first. Major western universities do a lot of PR work and spend quite a bit of money on brochures and publicity material and distribute them free at home and abroad, postage paid. These brochures include details of courses, facilities, fellowships and scholarships offered, fees charged and the areas of expertise of faculty members. Professional journals published by these universities also, partly at least, serve a similar purpose.

Outfits like the British Council or the US Educational Foundation, and other governmental, semi- and non-governmental organisations also partly do the PR work for them. British High Commission and American Embassy and consulates almost inevitably have a complement of education officers. Do our embassies and high commissions have them too?

PR work does make a difference. Recently, for instance, the Malaysian Government has requested some British institutions, including IELE, for training secondary and tertiary level Malaysian English teachers. The Japanese Ministry of Education, Mombusho, has had a similar arrangement with many British universities for several years. Mom-

busho, for instance, sends selected teacher for a six-month language and teacher training course to different universities in Great Britain. On a smaller scale, so do countries like Philippines, Taiwan, Sri Lanka and others. Many African and Latin American countries also do so.

Besides the fees, these governments also spend huge amounts of money flying their teachers to different parts of Britain. *Much less expensive and equally good, if not better training in teaching English can be given at CIEFL and other institutions in India too. India's expertise in this field cannot be disputed.*

Prof Henry Widdowson of London University said at an important conference in London last year that being born a native speaker of English did not make one a better teacher (or teacher-trainer) of English. A non-native speaker can have the invaluable experience of learning English as a non-native language combined with the experience and expertise in teaching it, Widdowson argued. Not only at Nalanda and Taxila long ago, but even in recent past we have had students and trainees from other countries. CIEFL, for instance, has trained several batches of teacher-trainees from Nepal and Vietnam. Indian Institutes of Technology (IITs), Jawaharlal Nehru University (JNU) and many other central and state universities and institutes have also taught students from parts of East Africa, West Asia and the middle-east.

But we have not promoted our institutions of higher education with vigour and imagination. From Vietnam, we could have gone on to Japan, Malaysia and other countries at least in our neighbourhood. From Iran we could have gone to Iraq, Saudi Arabia, Kuwait, Thailand and Malaysia. But we let this opportunity pass. We could have profited immensely from this experience, both academically and financially. But we are hardly aware that such a market exists and that we can compete.

India is the only developing country with a nearly 150 year old tradition of modern education in humanities, social and physical sciences and technology. Products of its universities have gone out and have competed with the best in the world. Indian graduates are working at educational institutions and industries, hospitals and banks, etc. at many places in South-East and West Asian and East African countries. But Indian universities themselves are yet to make anything of this opportunity.

We have not told even our neighbours that we can offer them equally good education much

cheaper and in a culturally familiar ambience. Many students from Taiwan, Singapore, Malaysia, Indonesia, Philippines and Brunei every year enrol at Australian universities for education in sciences and technology. Some also go to Britain and the US. A course of non-doctoral graduate studies costs about \$ 10,000 US dollars (nearly Rs. 300,000) annually at any of these universities.

Though it sounds like a cliché, they can get equally good education, if not better, in India at a fraction of that cost at any of our national and many state institutions. Fee-paying foreign students join engineering and medical colleges at Manipal in Karnataka in substantial numbers every year. IITs, Indian Institute of Science, Bangalore, All India Institute of Medical Sciences, New Delhi, or the science, engineering, agriculture, humanities and social sciences faculties at certain state and central universities can do it better. Even now these institutions admit some foreign students in these streams every year. It can be done systematically as a part of the national policy.

But who can convince governments and universities in these countries that India has the necessary expertise, facilities, experience and culture to offer them competitive higher education relatively inexpensively? We need to do some PR work in this area. Our embassies and high commissions should have a complement of experienced and competent education officers too. If the government wants the universities to go commercial, then it is important that it create a marketing department and have marketing managers at right places. It can help the country earn some precious foreign exchange. It can help our institutions earn some valuable international experience and confidence.

Conferences and Conventions

The government will also have to spend more at least on two items — conferences and conventions, and national and international scholarships. This will have to be treated as investment. It will expose teachers and researches at our institutions to work on international standards which may motivate them to produce work of comparable quality. This will strengthen their institutions to become and stay internationally competitive. Enhanced publicity itself will be a precious by-product of this policy.

Presently there is little facility of this kind. Some central universities and deemed universities have the provision for paying travel and registra-

tion cost to their teachers for upto two conferences a year within the country. With a second class railway travel and slightly reduced daily allowance, something similar exists at these institutions for students too. But most state universities have no such provision at all. Any travel support for conferences even within India to teachers or research scholars at these universities is upto the discretion of the vice-chancellors of these universities.

And most of our vice-chancellors are not very judicious or objective when deciding on these requests. They would rather use this money to pay for their own innumerable travels to the state or the national capital, or would help their cronies do so. Without exaggeration, I can say that nearly 75 percent of our university teachers have hardly ever travelled beyond the place(s) of their birth and employment even within India. It will be stupid to expect them to have a very global outlook suddenly.

Attending an international conference abroad is very difficult even for the very great and the very determined. Any Indian teacher participating in an international conference, in my opinion, should be given two credits — one for research of an international standard, and the other for raising the necessary money to report these researches. It takes at least a year of ceaseless correspondence with all possible ministries, departments and professional societies in India and abroad to be able to raise enough money to travel to any part of Europe or America or South East Asia, the popular venues for international conferences these days, to report one's research. Organisers pay only to the acknowledged leaders, if at all, in the field who no longer need to attend such conferences.

Unless a university teacher can spend this own money, and that may cost him between 24 to 30 months take-home-pay, an average teacher at the central and deemed universities can attend international conferences abroad with financial support from his institution only once in four years. But even this is not so simple. There are other (dis) qualifying clauses

Consequently, few university teachers in India ever think of attending international conferences. I am sure that 90 percent of our university teachers have not travelled abroad. Attending conferences abroad is considered to be the privilege of the favoured or of the great. In these circumstances, to expect our universities to be competitive suddenly amounts to camouflage for or prelude to closing

them. Otherwise, at least for a decade or so, the govt. must spend substantially on this head too.

Scholarships

A similar provision will have to be made for scholarships. If the fees are raised cost-effectively then the existing scholarships will also have to be raised substantially and new ones will have to be provided for students both at home and abroad. Let us understand this situation in some detail.

For a long time universities have been asking for revisions of tuition fees charged by them. AIU and eminent educationists have also advocated their case for more than two decades. But until very recently state or central government did not consider such revisions necessary. In spite of all its sermons for quality, even UGC has not been able to come up yet with a proposal for cost-effective fees for various courses at our universities.

Our universities and institutions of higher education have been deliberately led down the road of decline by not increasing their finances while increasing their student population several times, while creating universities without any regard to the quality of faculty and facilities available, and in several equally callous ways. These same ministers and bureaucrats have unfortunately been the cause of this decline. And ironically enough these same ministers and bureaucrats are asking these institutions now to fend for themselves. Can any aeroplane fly for long with more than its approved payload and less than the approved fuel?

However, the most welcome thing for higher education in this year's union budget is the provision of tax exemption of 125 percent on all grants to selected (i.e. central?) universities and research laboratories. This facility should be extended for donations to all statutory universities and research laboratories, state or central. It should be extended also for setting up scholarships and fellowships for studies at Indian universities.

So if fees are increased, scholarships will also have to be increased. Or else it may become suicidal. According to some unofficial estimates, an undergraduate course at an IIT, for instance, costs about Rs. 60,000 per student. After being at Rs. 800 for the entire course for several years, the fees have been revised since last years to Rs. 4,000. This is certainly not cost effective yet. If the students are charged Rs. 60,000 and more or less, as the prices

and wages go up and down, it is possible that many deserving students may be denied admission at this institute. For them, we need to create adequate provisions for loans and scholarships. Otherwise the universities may be starved of talent and may die.

To survive in this world of high tech researches, universities will need considerably enhanced funds for modernising their laboratories and for removing obsolescence. Almost any area of learning today, Astronomy to Zoology, has brought in computer techniques in collection and analyses of data for the sake of their vast sweep and their precision. Without investing in modernising our laboratories we cannot offer state of the art training and knowledge in many subjects. And this is truly an expensive affair. But it pays. Look at the Japanese. Nearly 30% of the dividends earned by their companies is invested in research and development, some of it through their universities too. Exemption of tax on donations to universities and laboratories may hopefully make the situation less grim on this side of our academic future.

But to ask the universities to fend for themselves without explicitly preparing them for it amounts to an act of irresponsibility, almost to the conspiracy to turn the country into a know-how borrowing country like many others in the so called developing world. Our defence researches which have done us proud recruit their scientists from our universities. It requires just enough commonsense to see that defence researches will not continue to remain what they are if our universities do not continue to remain what they are even now. In fact many people have already said earlier that the government could have saved a lot in capital investment and could still have had front line researches even in defence had it trusted the universities rather than setting up innumerable research laboratories outside the university system. At least about 60% of defence related researches in the USA are believed to be done by the universities there. Why could we not have done so? The trend can be reversed even now.

Universities and Industry

Universities cannot be equated with sick public sector industries, at least for two reasons. One, the nature of work is entirely different. Two, the levels of performance have been different.

Universities do not produce goods that can be valued, sold and/or rejected and replaced right

away, like a piece of machinery. They are producing people who produce other things. And no society, primitive or modern, can afford to ignore educating its people except to its own peril. Even in the so called capitalist countries, America, Australia, Britain, Canada, France, Germany, Japan or Singapore, the governments spend substantially on universities. Because no matter what their policy is, it cannot be implemented without properly educated and motivated people.

Secondly, the govt. suddenly realises today that economic policy followed by it for 40 years has not worked, and it wants to change that policy. That is understandable. But that has not worked with the Heavy Engineering Corporation (HEC), Ranchi, and therefore, if the HEC is closed, that is understandable.

But why punish Ranchi University at Ranchi for the fault of the HEC! Ranchi University has continued to produce what it was chartered to produce, namely graduates and researches in arts, business, commerce, engineering, agriculture, law, sciences, medicine, etc., and its graduates may not have done extraordinarily well at the national and the international level, but they have certainly not been the worst. In fact, in spite of the most depressing work environment, this university has produced graduates many of whom, at least, are nearly as good as others any where else. So why punish university for the fault of industry! That is beyond common-sense. That is the travesty of justice!

Somehow an impression seems to have been created that we have a large number of universities. Do we really? We have about 180 universities and nearly 30 deemed universities. But a tiny country like Britain has 56 universities. The United States of America with one fourth of our population has nearly 15 times as many universities as we have. Look at any developed nation for that matter. The City of Paris alone has about 20 universities, besides specialist schools and institutes for training and research.

We have to ask ourselves what model we shall have — Nepal, which has only one university, or Nippon, which has several. If the govt is sincere about its professions of reclaiming its respectable place in the comity of nations then it must, at least proportionately, start investing as much in education — higher, secondary and primary included — as the respectable nations in this comity are already

doing. Imitating them in defence budget alone will not do.

Industry even in the United States funds only such researches as are relevant to its immediate needs. Almost never does it fund very theoretical frontline researches in sciences or humanities. That is again done by different departments of the federal and the state governments there. It is not unusual, for instance, for the federal Department of Health to support a research in the grammar of a South Asian language. Advances made by universities in the field of knowledge depend to a substantial extent on the government in the USA. Additional resources are raised for many other purposes, such as full cost scholarships, etc. not so much in practice in India presently. Leaving vital activities like theoretical researches to the caprices of industry will amount to abandoning the independent status of universities as centres for the pursuit of knowledge.

To become self-financing our institutions of higher education require much greater administrative and academic autonomy. Centralisation and bureaucracy has not been able to enhance the efficiency of these institutions. Indian universities have never really had the kind of autonomy universities have in the western countries. British did not create universities in India for exactly the same purposes and in the same way as they did in Britain.

But even the limited autonomy of the British days has been taken away from these universities by many state governments, and to a certain degree, by the union government too. In many states, even the syllabi are decided by the government. In central universities such constraints are limited mostly to the regulation of pay, service conditions of employees, appointment of vice-chancellors and the constitution of statutory bodies like the senate and academic council, etc. But the formulation and approval of courses takes quite some time at these universities too.

To serve the educational market, universities may need to make courses with flexible structure, or custom made courses for the specific needs of students. Many public, private and foreign institutions are already offering such long and short term courses in India too. Such courses cannot be sent for approval of distant authorities every time before being offered. Drastic changes are due in our views and ways of conducting examinations. It seems

that the sole function of a university is to conduct examinations. That is not so. Many universities in the West have liberal examination requirements. Decisions in these matters will have to be taken locally and at short notices. Government secretariats may not be the best places for the management of modern universities.

Management Culture

The universities will also have to adopt modern management culture. They will have to come out of the ivory towers and compete for and retain whatever business they may get. As anyone with any experience of organising a conference or workshop, etc. knows it requires not just scholarship to do this. It also requires excellent managerial skills to organise these events. Managerial skills are also equally necessary to get grants and sponsors for researches, whether from the government or elsewhere. To convince the sponsor that the sponsor has a problem and that the answer to the problem can be found through investigation and experiment of a particular kind and that the proposer's organisation or laboratory is most appropriately equipped to conduct such an investigation or experiment, and all that is wanted is enough cash and time is no small matter, in addition to expertise in the particular area of knowledge, it demands excellent salesmanship. In fact, many universities are already encouraging their faculty to court and influence the sponsor to support their research projects.

There is evidence that company executives are more willing to attend reorientation programmes organised in the expensive convention halls rather than in the plain auditoria of the organising universities or institutes. That brings a lot of additional responsibility to any conference organiser, from booking of the conference hall, getting enough participants for the programme, taking insurance to withstand the failure liability, arranging transport, accommodation and entertainment and sightseeing, arranging recording and projection equipments, and providing conference kits like bags, scribbling pads, pens, pencils, drinks and eats for all in plenty, and in time. A two-day conference of the typically modern kind does easily charge a registration fee of Rs. 1,500 plus accommodation. It is true that the organisations are willing to spend on it, and there is money to be made out of these programmes. But it requires business acumen no less than academic.

Universities will have to make some funda-

mental changes in their recruitment policy. Appropriate changes in their statutes are over due. Universities will have to identify the kinds of studies that may be relevant in the area in which they function. Possibly they may have to appoint teachers and others on contract for definite periods of time, with option for continuation or termination of the contract. This is not going to be easy, given our penchant for corruption, favouritism and nepotism. Norms for selection and continuation or termination of contracts will have to be evolved such that they help appoint and retain the right kind of people and reject those not found fit.

Teachers themselves may have to adjust to some very painful changes in the manner of their work. They may have to teach in different departments and universities/institutions. They may have to share journals, books, laboratories and other facilities and equipments. That may bring in the optimum use of these things, as against the present fashion of having one piece of everything for everyone. These changes are not going to be easy, but neither are they impossible. Above all, this will generate increased interaction among people at universities. And what are universities, after all, if not a system for learning collectively?

Today we need vice-chancellors, directors and other chief executive officers at universities and institutions of higher education who may not be great scholars, many of them are not so any way, but they must be great managers. Our universities have enough talent to survive in any market.

Unfortunately at such a time of transition the leadership and the initiative that should have come from the MHRD is painfully missing. Perhaps it is directed towards Ayodhya and the protection of India's secular constitution. The question is can we protect India, secular or otherwise, without a modern and competitive education?

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Youth Preparation and Paradigm Shifts in Higher Education

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Introduction

Self criticism can be painful. It can hurt our egos. However, it can also contribute to building new paths of progress. It is in this context that we are examining our oft repeated assertion regarding our scientific achievements and our social-cultural attainments. Superficially, it looks that our society in general, and higher education in particular, have excelled in producing individuals who have achieved incredible degree of quantitative success. But we have yet to produce the corresponding proportion of Nobel Laureates. It is said that instead of *Head-counts* of our scientists we should examine their *Head-contents*. It has also been found that we are struggling with an inner hunger, and an innate need for personal congruency. We are continuously losing effective, healthy, growing relationships with other people in the society. In other words, we as a society in general and higher education comrades in particular have, perhaps, inadvertently contributed to the development of crippled personalities by making wrong choices. We *must* stop this process through a new form of higher education.

The growing personality of an individual is woven around one's self-image. The manifestation of one's self-concept, positive or negative, can be called the personality or the psychological self. When a person exhibits self-confidence, demonstrates an ability to cope with a variety of challenging situations, and can handle defeat in life without falling apart, he is said to have a healthy personality. Contrary to it, the unhealthy personality is characterised by the observable indicators of uncertainty in behaviour, poor self-image, and supposedly disintegrated psychological self. We must plan to develop healthy personalities in our institutions.

To begin with, let us examine afresh our educational processes and ponder over the education imparted to our youth. Is our education leading our youth to *be what they are*, or is our education *pushing*

and pulling them randomly? Is our education consistent with the abilities, motives and interests of learners or are we producing insecure, anxiety prone handicaps? Let us start reviewing with the college settings. In college settings, academic excellence is considered equivalent to that of rapid learning and effective storing of learned material, effortless location of stored information, skillful application of known facts, thirst for new knowledge, quick appreciation of the nature and significance of new ideas, flexible adaptation of the already learned details in the light of the new inputs and so on. Is our education able to assist our youth to imbibe these qualities?

There is no denying the fact that colleges have over-concentrated their energy on the cognitive domain, and left Brain attainments. The Right Brain is being devalued and, in some cases it is actually being suppressed. There are hardly instances where we find that the holistic-education covering Right and Left brains is being developed on systematic lines.

Research has proved that the whole brain works best when it is coordinated and that tension occurs when it is skewed. The hemispheres of the brain can be in conflict with each other just as the sub-selves of the personality structure can be in conflict. We need to respect the functions of each hemisphere and utilize their powers to benefit our own productivity. We need the left hemisphere's analytical, logical, sequential, and objective functions; we also need the functions of right hemisphere such as, synthesizing, intuitive thoughts, holistic thinking, and subjective perspectives. We must aim for the integration of the left and right hemispheres of the brain. Does our higher education meet this objective and provide for new inputs for developing in integrated brain?

In real life, excellence manifests itself in intellectual activity and curiosity, inventiveness and productivity, and in outstanding achievements in science, engineering and mathematics, humanities, arts and letters and the like. Good ideas and excel-

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lent manifests are not easy to cultivate. They need rich soil, attention, and encouragement to take root and grow. If we are serious about encouraging creativity through higher education then we need to *understand* the entire creative process.... from concept to reality. We need to understand *thinking*... the mysteries and mechanics of creative thought. We also need to understand *doing*... the possible actions we can take to increase our creativity. Only on becoming aware of how we conceptualize, and of the techniques that lead to better problem solving, can we bring forth our very best ideas.

With this background of desired excellence in mind, let us examine the question: To which of the following two categories of persons do we belong?

* Those who are indifferent and believe that there is no valid *Issue* about the shifting paradigms of higher education?

or

* Those who believe that higher education has a professional responsibility to assist individuals to realize their own unique potentials.

In the more articulate academically charged environment of a university, college, administrative offices, and staffrooms, people are regularly exposed to the old ways of thinking, and the old educational paradigms. The environment is full of indifferent and resisting persons. Resolving the dilemmas of modern living is not a burning issue for them. For them, the dilemmas like, wise and renewing balance between work and family; personal and professional ambitions in the midst of constant crisis and pressures; replacement of prejudice with a sense of reverence and discovery for promoting learning, achievement and excellence in people; encouraging the desire to change and improve without more pain than gain; and recharging ourselves to maintain momentum for learning, growing and improving, seem to have no meaning. They hold the opinion that creativity and change take us into the unknown land of conjecture. Real change is not predictable. Hence, there is no point in wasting our valuable time and energy on issues which are incomprehensible.

Contradictory to this group of thinkers, we come across those persons who abound with pleas for innovation, entrepreneurship, thinkability, economic victory, unparalleled creativity, calculated risk taking, and the skill to make a paradigm shift. And it is this green field which we want to tap for a breakthrough in higher education. Since we want

to make a significant, quantum change, in higher education it is imperative that we work on our basic shifts in our paradigms. In the words of Thoreau, "For every thousand hacking at the leaves of evil, there is one striking at the root". We can only achieve quantum improvements in our lives as we quit hacking at the leaves of attitude and behaviour and get to work on the root, the paradigms from which our attitudes and behaviours flow. We need a shift in the process of higher education that can produce a new and mature person through new paradigms.

Effective Personality Development

A comprehensive framework in the area of effective personality development has been proposed by Covey (1989). Our higher education *should* manage to cater to the shifting paradigms from *dependence-to-independence-to-interdependence* and the corresponding shifts from *you-to-I-to-we*. These paradigms cover a broad spectrum of *private victories*, i.e. the essence of character growth to the *public victories* where we unleash both the desire and the resources to heal and rebuild important relationships that may have deteriorated or even broken. Good relationships will improve creativity, and adventuresome. Interdependence is a choice which only independent people can make. Dependent people cannot choose to become interdependent. They do not have the character to do so. They do not own enough strength. Higher education *must* produce mature having a new set of seven habits :

Associated with habit 1 : Be Proactive is the endowment of *self-knowledge or self-awareness*. This is the ability to choose one's response (responsibility).

Associated with habit 2 : Begin with the End in Mind is the endowment of *imagination and conscience*. Here we can decide for ourselves what we want to do with our time, talent, and tools. Within our small circle of influence we must begin to decide the end point in mind.

Associated with habit 3 : Put First Things First is the endowment of *Willpower*. At the low end of the continuum is the ineffective life of taking the easy way out, exercising little initiative or willpower.

Associated with habit 4 : Think Win/Win is the endowment of an *abundance mentality*. Why? Because our security comes from principles. Everything is seen through the mirror of principles. Principle-centered people love to share recognition and

power. The basic paradigm and assumption about limited resources is flawed. The abundance mentality produces more recognition for everybody.

Associated with habit 5 : Seek First to Understand, Then to be Understood is the endowment of *courage balanced with consideration*. We generally pretend to listen and in the process try to frame our responses. If we truly listen to somebody the whole relationship is transformed. In the process of listening we try to listen to ourselves, and thus, feel a worth in ourselves.

Associated with habit 6 : Synergize is the endowment of *creativity*, i.e. the creation of something. When one gets into synergistic communication, one tends to understand the basic underlying needs and interests and finds solutions to satisfy them both.

Associated with habit 7 : Sharpen the Saw is the unique endowment of *continuous improvement or self-renewal* to overcome entropy. If we do not improve and rejuvenate ourselves constantly, we will decline into entropy, closed systems and styles

Through its various components and varied processes, higher education should accommodate these habits in the form of new objectives for developing a new personality.

New Paradigm in Educational Practices

Higher education is getting reformulated through new structures and related functions. The early indicators are available in the form of shifting emphasis from old to new educational practices. It is expected that the new paradigms would contribute for the preparation of a new man.

Shift of Emphasis of Educational Practices

From OLD	to NEW
* knowing	searching and creating
* facts	learning to learn
* formal education	life long education
* Standard model	alternative options
* fixed knowledge	tentative truths
* subject mastery	thinking skills
* cognitive domain	all domains
* rigid system	flexible systems
* passive	active learning
* single textbook	multiple resources
* past orientation	future orientation
* system centered	human centered
* competence	significance
* specialists	generalists
* satisfaction	happiness

Conclusion

The innovative system of higher education should extend its boundaries beyond the usual functions of mastery over subject, conducting research, and organizing extension to a new man-making-process. The shift requires :

- * generating its own curriculum,
- * introducing thinking skills in the foundation curriculum, and
- * developing creative personality of students and faculty having new sets of habits.

To overcome the pull of the past, those restraining forces of habit, customs and culture to bring about desired change in higher education we need reinforcing relationships, people and programs, remodel our inputs with imagination and vision. And as we deal well with each new challenge, we unleash within ourselves a fresh capacity to soar to new heights.

[We are grateful to Dr M.S. Sodha, Vice Chancellor, Lucknow University for his encouragement to write this article]

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October-December 1992

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The Funding of Universities

Amrik Singh*

During the last few years, the problem of funding of universities has become both difficult and uncertain. It had been always so at the state level. Now at the central level also, things are not what they used to be.

Going further, it is important to analyse some of the recent developments. At the central level, these are of two kinds. One is the overall scarcity of funds and the other is the imbalance between what is spent on central universities and what is left for the state universities. As is known, the central universities have both their maintenance and development expenditure met by the UGC whereas in the case of state universities only development funds can be provided to them.

Not so long ago, in fact some 10-15 years back, each state university got quite a few crores of rupees as development grant. The number of such universities was not particularly large at that time and there were fewer, insistent claims from central universities than is the situation today. At the end of the 70's, the central universities claimed about one third of the UGC funds. In the 80's it became about two thirds.

In consequence only one third of what is left over can be provided to state universities. Since both plan and non-plan funds currently made available to the UGC are of the order of 450 crores per year, evidently something around 150 crores only is available for state universities. With their number having already crossed more than 150, what most state universities get is around one crore each for a period of five years. And sometimes not even that. Therefore UGC grants make no impact on state universities. If it was assumed at any time that the UGC would be able to play a positive role, one of guidance and help, as far as the state universities are concerned, that hope has been belied.

When it comes to the plight of the state universities, it should not be necessary to say much. Amongst the problems that most of them face, three

stand out. One, state grants are not based on any specific principle, and everything is done on an ad hoc basis. Secondly, there is no clearly defined mechanism and no university can take it for granted that what happened in a particular year would be repeated in the following year. Sometimes it happens that way, but sometimes it does not. Thirdly, whatever is released is seldom released on time and, more often than not, it is hardly adequate. In fact the universities are perpetual beggars and the relationship that exists between the state governments and the universities is one of a giver and a supplicant.

In this situation, political connections and political skills are usually at a premium. In order to get appointed as a Vice-Chancellor, the minimum that any state government seeks to ensure is that the person selected to head the university is convenient. But sometimes that is not enough and indeed much more is expected. No wonder what gets sacrificed in the bargain is the autonomy of the university. There is so much more to be said in this regard but it should not be necessary to do so except to make one point.

At the central level, autonomy is much better protected than at the state level. The UGC acts as a cushion between the government and the universities. Even though funding is provided by the UGC, it does not have even a representative on the finance committee of the university. Instead it is the Ministry of HRD which has two nominees usually. This has not been planned that way. Rather the Ministry has been much too lazy to amend the provisions of different university acts. The net outcome of these steps however remains that central universities are, for the better part, more or less fully autonomous whereas the state universities are in an utterly unenviable position.

II

One can go on endlessly with this litany of complaints. To say that funds for higher education are in short supply and there are difficulties of procedures and so on would not accomplish much. One has to grapple with the basic problem and it may be identified as under.

There is a general scarcity of funds. This derives

[Based on Madhuri R. Shah Memorial Lecture delivered at Kurukshetra University recently.]

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from two sources. One, the Indian state is not able to provide as much for education as has been advocated for a long time. When the Education Commission reported in 1966, around 2.5 percent of national income was being spent on education. This Commission suggested that in about two decades the proportion should go up to 6 percent of the national income.

Two decades later, when education was again reviewed in 1986, it was a little above 3 percent of the national income that was being spent on education. Since then the proportion has gone up and currently it is not yet 4 percent but somewhat short of that. Clearly the state is trying to do what it can but there are other competing demands and, therefore, there are problems. A part of the problem also arises from the fact that allocations as between different sectors of education reflect changing priorities and changing policies. The figures given in Table 1 illustrate the point.

These figures speak for themselves. In 1966-69, elementary education went as low as 24 percent which was less than half of what had been done in the first Plan. Gradually it picked up and in the current Plan the proportion is 47 percent. It re-

quires to be added that if it was 56 percent at one time, the total outlay was small then and 47 percent is out of a much, much bigger figure.

In regard to secondary education, variations are there but they are much less as compared to elementary education. When it comes to higher and technical education, however, the variations are much more noticeable. It should not be necessary to dilate upon these details except to say that it may be helpful to analyse the process of how it came about.

Soon after 1947 when we became independent, there was a considerable demand for the expansion of higher and technical education. The plain fact is that it had remained unmet for a long number of years. There were other factors too. When for instance the Chinese attacked India in 1962, one of the outcomes of that development was greater emphasis on technical and professional education. It was argued that we need more engineers. By the end of the decade, however, there was some kind of an over production. As we came to the 5th Plan (in the mid 70's), support for technical education began to shrink. It is not as lavish today as it was in the 60's but let it not be forgotten that meanwhile the base has got expanded a great deal and, in overall terms,

Table 1 — Plan Expenditure on Different Sectors of Education (Percentage)

Sector	1st Plan expdt 1951-56	2nd Plan expdt 1956-61	3rd Plan expdt 1961-66	Plan Holiday expdt 1966-69	4th Plan expdt 1969-74	5th Plan expdt 1974-79	6th Plan expdt 1980-85	7th Plan expdt 1985-90	8th Plan expdt 1990-92	8th Plan outlay 1992-97
Elementary education	56 (850)	35 (950)	34 (2010)	24 (750)	30 (2390)	35 (3170)	33 (8360)	37 (28490)	37 (17290)	47 (92010)
Secondary education	13 (200)	19 (510)	18 (1030)	16 (530)	18 (1100)	17 (1560)	21 (5300)	24 (18320)	22 (10530)	18 (34980)
Adult education							9 (2240)	6 (4700)	9 (4160)	9 (18480)
Higher education	9 (140)	18 (480)	15 (870)	24 (770)	25 (1950)	22 (2050)	22 (5590)	16 (12010)	12 (5880)	8 (15160)
Others	9 (140)	10 (300)	12 (730)	11 (370)	14 (1060)	14 (1060)	4 (1080)	3 (1980)	2 (1180)	4 (7510)
Technical education	13 (200)	18 (490)	21 (1250)	25 (810)	13 (1060)	12 (1070)	11 (2730)	14 (10830)	17 (8230)	14 (27860)
Total	100 (1530)	100 (2730)	100 (5890)	100 (3230)	100 (7860)	100 (9120)	100 (25300)	100 (76330)	100 (47270)	100 (196000)

(Source : Education for All : The Indian Scene, Government of India, Ministry of Education, 1993)

this has meant considerable growth in the number of colleges catering to engineers and related courses and the students enrolled in them.

The point of providing these details is that as far as allocations to different sectors of education are concerned there has been no consistent policy. At any rate, at a certain stage in the recent past, both higher and professional education received uncommonly strong support and, to some extent, at the cost of elementary education.

It also needs to be added that the paths of these two sectors of education began to diverge a couple of decades ago. While the demand for technical education kept on growing most of it was met by the establishment of what are known as capitation fee colleges in some of the Indian states. More and more students joined these courses. Since the state could not provide the requisite funding, these colleges filled the gap. That this was an unhealthy development and could not be sustained indefinitely became apparent when, in early 1993, the Supreme Court gave its historic judgement details of which do not have to be gone into here.

In the case of traditional universities the number kept on increasing and so did the number of colleges. In 1961-62, the number of universities was 86 and the number of colleges was 3,896. By 1991, the number of universities had risen to 148 and the number of colleges to 6,512. In terms of student enrolment it had gone up to 44,25,247 from 20,65,041.

What kind of impact this development had on the overall situation would be examined a little later but one aspect of it should be noted. Technical education though under pressure could survive for a couple of decades despite scarcity of support from the state but the traditional universities could not. They became victims of unplanned expansion, pressure of numbers, political interference and so on. In consequence these universities are in a very difficult situation. It is difficult to say how this problem will be resolved in the near future. All that one can say is that unless some basic changes are brought about, the situation can get worse rather than improve.

III

What do we mean precisely when we talk of basic changes? Mainly two things, and to quite an extent they are interrelated.

Why do students flock to college? Do they all

get jobs after they pass out? The obvious answer is in the negative. One has only to look at the figures of the unemployed maintained by employment exchanges, and one knows that the backlog of those registered for jobs with them has been growing. As per current estimates, around 3.5 crores of persons are registered as unemployed with the employment exchanges. Despite such widespread unemployment, students keep on crowding into colleges in the hope that sooner or later they would be able to land a good job.

Quite a number of them do. Only the time lag between their passing out and their getting a job has kept on increasing. Even a decade ago, according to a recent study by J.L. Azad, 39 percent of those registered had to wait for more than three years.

Despite this discouragement, students do join colleges in large numbers. In terms of proportion, they are around 10 percent of those who pass out from school. In other words, 90 percent do not enter college and only 10 percent do. While it would be difficult to quantify, one thing is clear; the economy is not expanding and diversifying at the rate it should have.

Though the rate of economic growth has varied from decade to decade, till the beginning of the 80's, the general average was 3 percent per year; what late Raj Krishna described as the Hindu rate of growth. In contrast, in the 50's and the 60's the rate of growth at the college and university level was 13-14 per year. In the 70's and the 80's it came down to around 5 percent and the rate of economic growth was also about the same. It has more or less hovered around that figure since then.

Clearly those who were being trained for absorption in the modern sector of the economy were much larger in number than those who were being inducted into college education. In this situation, unemployment was bound to grow. This, however, did not prevent a growing number of people from getting enrolled in colleges. In 1970, the enrolment was over two million; by 1990 it had more than doubled.

People everywhere respond to the way the market behaves. The modern sector of the economy as far as India is concerned is limited to around one quarter of the population. The remaining three quarters live in the countryside and by and large depend on agriculture for sustenance. Though agri-

culture has got somewhat modernised in certain parts of the country, for the most part it has remained traditional, if not also stagnant.

What is done in colleges is calculated to prepare young people only for the modern sector. That sector is already over crowded. Unless there is better balance between the modernised sector and the agricultural sector, this problem would continue more or less in the form it has continued for a century and a half, ever since the British colonised India.

This is the heart of the problem. Even though we have been our own masters for over four decades and can claim credit for having followed a planned system of economy, in essence we have not changed the earlier colonial model. Obviously it is not possible to expand or to amplify this statement at the moment.

Unless there is an organic relationship between the economic policies and the human resource development, imbalances are bound to grow. Since we have been faltering on both scores, and more particularly in regard to the relationship between these two dimensions of the problem, difficulties have arisen and those cannot be overcome so easily.

To cut a long story short, the question that we have to answer is : Is the situation in colleges and universities likely to improve ? The short answer is in the negative unless the economic policies undergo a drastic change. In plain words, for those of us connected with universities and colleges there is not much of a hope even in the near future unless the planning policies of the country are radically altered. To put it another way, the pressure on universities would continue unabated. This therefore would mean continued scarcity of funds for universities and colleges.

The second, related issue is : can we raise more resources from students. It is possible to do so provided we can reorient some of the existing policies. It is not easy to do so. When we talk of lack of political will, it is precisely this aspect to which we refer. To be specific, in 1950-51 20.39 percent revenue came from fees. It has been gradually declining over the years. In 1983-84 it was 7.5 percent.

All these years since 1947, fees have remained stagnant. Hardly any state government made an attempt to revise the fees upwards so as to keep pace with the rising graph of expenditure. As a general proposition, one can say that expenditure on education doubles almost over five years. Partly this happens because of the escalation of costs but

the greater explanation is that the numbers keep on increasing and the incidence of expenditure therefore has to increase.

Fees are not increased basically for two reasons. One, every student is not all that keen to be in a college. He is there more by compulsion than by choice. That is why we get to witness, amongst other things, so much of student delinquency. Everyone who joins a college is not interested in going on with the course. He knows that even when he passes out, there would be no job waiting for him. Therefore, there is no desire to go on with his course of study and he goes through college in a lackadaisical kind of way.

To ask such students to pay more for the doubtful privilege of being enrolled in a college would amount to adding to his problems. Even though he gets little out of it, he is obliged to be in a college and this he regards as a form of punishment. If, on top of it, he is asked to pay much more than what he is paying, he would regard it as a double punishment.

Another thing, it is mainly two social groups in India which are well organised. One are industrial workers and the other are students. Even when student organisations are affiliated with different political parties, over this issue they would all be united. In other words, nothing would bring them together on the same platform more decisively than an attempt to raise fees.

And yet the costs are rising all the time, state finances are over stretched. There is much less available for college education than there is need for it and still it is not possible to increase the fees.

While some increase is possible as well as desirable, it should be clearly understood that the margin for any kind of increase is not particularly high. That is to say, the best that increase in fees can achieve would be to perhaps go back to the 1950-51 situation and little more than that. This is not to suggest that such an attempt should not be made. But let no one be under the illusion that there would be any marked change in the financial situation.

IV

There can be a marked and meaningful change in relation to technical and professional education, however. This is mainly for two reasons. One, the demand for it has not slowed down, nor is it likely to slow down in the near future. So far, the demand

was met by the establishment of almost 200 medical and engineering high fee-charging colleges in some of the states. After the recent judgement of the Supreme Court, can the situation be said to have improved?

Hardly. This is for the reason that while the Supreme Court has solved one problem, it has not attended to another, related problem. To quite an extent it has solved the problem of corruption which had become a social menace. As a result of this judgement, the social scene has changed in several crucial respects and there can hardly be any commerce under the counter now. The phenomenon of several crucially located individuals lining their pockets has largely come to an end.

This part of the problem has been solved by the judgement of the Supreme Court. By laying it down that all admissions would be based on merit, the Supreme Court at one stroke has eliminated the possibility of underhand transactions and other operations of that kind. So far so good as they say!

But there is also another dimension of the problem to which the Supreme Court has not paid any attention. If a student belongs to the upper academic category and gets admitted to one of the government-run colleges what he has to pay is perhaps 15-20 percent of what his counterpart in the second category would pay. The second category consists of students who are academically less capable but are capable enough to have qualified for admission

As would be recalled, the Supreme Court has divided students into two categories. The more meritorious ones would qualify for admission to government-run colleges. In these colleges, the tuition fee would be much, much lower than in any privately-run colleges. If we go by the example of Andhra Pradesh today, these two categories already exist in that state. In the government-run colleges, the fee is around Rs. 3500/- per year today. In the other colleges, where the government does not pay any grant, the fee in engineering colleges is more than Rs. 25,000 per year.

This system got institutionalised in Andhra after N.T Rama Rao came to power in 1983. In his election manifesto, he had taken the position that the system of capitation fee would be done away with. When he actually formed the government and wanted to ban the charging of capitation fee, he was told by his officials that in terms of law the system

had already been declared illegal. Only the law was not being enforced. Nobody has to be told that this is not all that unusual in our country!

Though this was a bit of an anticlimax for him, he did not feel embarrassed in any way. Being the showman that he is, he said we must nonetheless go ahead and adopt a new law. That was done. But then arose the next question. These colleges said that were they to charge what government-run colleges were charging, they would not be able to run the show. The government colleges were getting a grant from the government whereas the privately-run colleges would not get any grant or subsidy. Therefore something had to be done so that the show could be kept going.

Thereupon a new exercise was undertaken. As a result of this exercise, these privately-run colleges were permitted to charge something around Rs. 6,000/- per year. That decision was taken almost a decade ago. Fees have been raised at the rate of almost Rs. 500/- a year since then and by 1992 these colleges charge something like Rs. 11-12,000/- per head. In the wake of the Supreme Court judgement, it has been scaled up further. In other words, there are two parallel systems running. If a student qualifies to get into one of the government-run colleges, he pays a small fraction of what the others pay. But if a student could not get into one of these colleges and was obliged to join one of the privately-run colleges, he had to pay 15-20 times or even more.

V

What the Supreme Court has done is to more or less perpetuate this system, though with one difference. These colleges in Andhra always had the right to admit anyone they wanted. In other words the selection of students was entirely at their discretion. In the system now laid down by the Supreme Court, this system has been dismantled and a new system has been instituted. In terms of this system, there would be an open competition. Those who qualify to get into government-run colleges would get admitted and pay a fraction of what others, somewhat less meritorious, would pay.

What would happen if one of the students was slightly less meritorious and failed to get into one of the government-run colleges? He would be obliged to pay a much, much higher fee. If he can pay, well and good. If he cannot pay, as is bound to happen in a certain number of cases, he would either have to

forgo his chance or somehow raise resources so as to continue his professional education.

The question to ask is : Is this system fair either in academic or in social terms ? As to the academic dimension it is not difficult to give an appropriate answer. If one gets let us say 90 percent marks, one pays Rs. 3500/-. But if one gets 89 percent marks and one therefore fails to get into a government-run college, one pays Rs. 25,000/-. Should the difference of one mark make that much difference in what a student is required to pay ? This is in respect of engineering. Medicine is almost four times as expensive.

When it comes to the social dimension, one can argue in more than one way. Since a certain number of them, perhaps a fairly high proportion, were willing to join a capitation fee-charging college, why should it hurt them now ? They were prepared to pay a high sum of money earlier and are to pay a high figure even now. To put it another way, to them it has made no difference.

But there would also be another category of students who were not able to pay the high sums demanded earlier but were academically meritorious. Their merit did not count for anything then, for they could not even aspire to enter a college which charged a high fee.

In the changed context, they would sit for the competition and be adjudged as possessing high merit. But they do not have the resources to pay. Therefore they would have no choice except to drop out or somehow arrange for funds.

Behind all this confusion there is a deeper level of confusion. What we in our country are not prepared to recognise is that certain levels of education, more particularly professional education, cost enormous sums of money. Therefore somebody has got to pay for it. Either the government does it or it is the student himself or his family. Who should pay—the state or the individual—is a question therefore that cannot be evaded.

The Supreme Court has not addressed itself to this question. To say that it has tried to evade it would not be fair. As far as one can judge, it has addressed itself to one limited problem, the problem of putting an end to the unashamed corruption that had become a marked feature of private enterprise in professional education. With the kind of

system that has now been adopted, admission would be on merit and the promoters or the managers would have no right to admit any one, except within certain specified limits. Therefore, whoever gets admitted would be a meritorious student; and that is how it should be.

But what about the other aspect of the problem: who should pay ? Should it be the state or should it be the individual ? It is possible to argue, and indeed it is being argued by a number of people, that if someone has merit, it should be recognised. One way of doing it is that the state should pay for his education and training.

On the other side, it can be argued, and this point of view too is being vehemently argued, that while this kind of patronage of merit is an admirable thing and requires to be promoted, there is one precondition. Funds should not be diverted from elementary education to higher or professional education, more particularly when more than half the population is illiterate.

This is not to suggest that these two levels of higher education are unimportant. But the question to ask is : can they claim precedence over such a pressing need as to make every citizen literate ? This was an obligation cast upon the Indian state and should have been discharged, over three decades ago. If it has not been discharged, it should claim priority over other claims, however weighty and important they might be.

Without pursuing this issue further, it is important to recognise what is at the root of the confusion over what requires to be done first and what next is partly a substantive confusion and partly a procedural confusion. The substantive part has been dealt with already to some extent. But perhaps a little more elaboration is called for.

With the kind of middle class bias in education which came in with the colonial model introduced in the middle of the 19th century, the assumption so far has been that the few who became literate were superior to others who were illiterate. Indeed such a person was entitled to some kind of a well paid job. If someone was also proficient in English, he was superior to someone who was not so proficient in it. These 19th century assumptions have continued to survive till the end of this century. As far as one can judge, they are not likely to be modified in any significant manner in the next few years.

One of them has been modified to some extent in a state like Kerala. Everyone is literate, whether he is a high level officer or a taxi driver or a washerman. Whatever he might be doing, he is literate. Not only that, women are as literate as men are and therefore men cannot claim any kind of superiority on the ground of being literate. Gradually as literacy is spreading to other states, a similar situation would arise but overarching everything else is another assumption.

Anyone who works with his hands is inferior to one who works with his mental faculties. This happened to coincide with the long-standing prejudice against manual work in our society. If everybody wants to be a doctor or an engineer, apart from the popularity of these professions, one additional source of popularity was the fact that such a person issued orders rather than carried them out. On top of that, such jobs were better paid. The middle class bias of education is therefore something which is at the centre of things in our educational, as also our social, system. It is not likely to undergo any change in the foreseeable future. To put it another way, the preference for higher and professional education would continue to exert the kind of magnetic effect that it has exerted all these years.

VI

And now a word about procedures in respect of the sanction and release of grants. As would be recalled, before the British power got established in India, almost every village had some arrangement for imparting literacy to small children. Generally speaking, this arrangement was a part of the set up associated with the temple, the mosque, the church and so on. The local landlord was obliged to support the pedagogic dimension of these places of worship.

In 1931, on the occasion of his visit to the Second Round Table Conference in London, Gandhiji took the position in a public address that India was more literate before the British came than she was at that time. This was disputed by several Britishers, and there was a long drawn controversy. At the end of it, nothing could be clearly established except that one point got fairly well established.

Before the advent of the British, things were organised in an informal way. What the British did was to put everything on a formal basis. In consequence, the informal system died down and the

formal system, such as it was, failed to take off beyond a point. The sources of public support gradually dried up. In any case the governmental support was not available in the requisite degree and the unavoidable consequence was that the spread of literacy slowed down. It should not be necessary to amplify this point except to refer to the grant-in-aid system that the British established in respect of schools.

Elaborate rules were drawn up and certain items of expenditure were approved while others were not approved. The unapproved items were not to be paid for by the state and therefore everything was particularised as also bureaucratised.

In course of time, the system also got extended to colleges. Universities were relatively free from the inroads of this system. In fact, before 1947, universities hardly received anything from the government on a systematic basis. Some ad hoc grants were made. In most universities Vice-Chancellors worked on a part time basis and were paid an honorarium. In certain cases, the salary of the Registrar and a small complement of office staff was paid for by the state exchequer. As to other expenses, those were met by the surplus which most universities got by conducting various examinations, including the matriculation examination.

The system had begun to crack up by 1947. A few years later the UGC was set up; December 28, 1953, to be precise. Parallel to these developments, the various states also began to evolve methods and procedures for giving grants to colleges. In course of time, universities too were brought under their orbit. Within two decades, the whole system has got defined in a fairly rigid way.

The UGC grant-in-aid rules to Delhi colleges for instance run into something like 40 pages. Every item of expenditure is enumerated, classified and given a certain weightage. There is something for salaries, something for maintenance of the building, something for the annual day function, something for advertisements and so on. Colleges throughout the country are bound by similar rules and regulations and they have hardly any discretion in the matter.

The end result is there for everyone to see. It is the *babu* who controls everything. If he is inclined to be liberal, he can overlook certain marginal transgressions. If he is inclined to be rigid, nobody can

help the college. The same applies to the universities. Everything is itemised and rigidly controlled in respect of the library, the teaching and the non-teaching staff, the laboratories and so on. Therefore whether it is the university or the college, their grant is determined by the rules laid down and in the manner in which those rules are interpreted.

Anybody who has experience of university and college administration knows how difficult it is to manage things. These difficulties have begun to multiply, as already indicated, ever since the number of universities and colleges began to multiply. This growth in number picked up momentum during the last couple of decades and today the situation is that while the number of institutions is increasing, grants are not increasing in the same measure. Nor is funding likely to increase in any noticeable manner in the years to come.

Apart from the substantive matter, discussed earlier, a fresh look at the procedures is also called for. The procedures today are a legacy of the 19th century East India Company days. These procedures have been further refined and made more deadly, so to speak, in recent years in certain states. In essence, they are a continuation of what used to happen even before the Mutiny of 1857.

VII

Is it not time that we switched over not to zero budgeting (which is a buzz word with some people) but to the system whereby the unit cost is determined beforehand and grants are made in relation to the number of students following a particular course? Evidently the unit cost would differ from course to course, from year to year and even from place to place. If it is B.Sc. (Engineering), the unit cost would be different from B.Sc. (Agriculture). And if it is B.Sc. (Veterinary Science) it is likely to be different from B.Sc. (Agriculture) and so on.

If administration is to be made more efficient and predictable and if any kind of premium is to be placed on more economical use of resources, we have no choice except to switch over to this system whereby the basis of grant is not to meet the deficit or worry about the approved or unapproved items and the weightage attached to them but the per unit cost in respect of each course.

There are a number of other advantages that would accrue. One, to some extent the numbers

would get controlled. Today hardly any importance is attached to the number of students pursuing a particular course. Once the unit cost is fixed, it is bound to have an impact, however small it might be, upon the number of students.

Secondly, while working out the unit cost, everything would have to be taken into account. How much of staff, how much of supporting staff, what library and laboratory facilities and so on? Although the items which we today enumerate in government circulars would get enumerated once again, the line of approach would be different. What is worked out at the end would both be somewhat provisional and distinctly more feasible and pragmatic than before.

Thirdly, these decisions would be made basically by bringing together two kinds of experts. One would be those who are well versed in accounts and financial matters and the others would be academics. Today academics have hardly any role to play. They simply put forward their requests and these are accepted or rejected or modified by those who are in charge of finances. In the new system decision making would have to be through interaction between the two sets of experts. And this would be a tremendous advantage.

Fourthly, once the unit cost has been worked out, it would not be necessary to have an elaborate, clerical system to calculate each item and detail them up and identify items which require to be accepted or rejected and so on. The whole thing would be simple and straight forward and there would be no hassles. It would on the whole be a much neater and much quicker operation.

It is not suggested that procedures alone would bring about a basic change. Those would come about only when we reorient our thinking and priorities. Those are the basic issues and have to be given the importance that is due to them. At the same time, by streamlining some of the procedures in the manner suggested here, things would get simplified and made more efficient and less exasperating.

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Reorganising the Financing of Higher Education

Mohd. Muzammil*

The decade of 1990s has opened with far reaching changes in the philosophy of and approach to development not only in India but the world over. Since higher education is said to be 'the engine of growth' the financing of this sector is also faced with a transitory crisis. In fact the predicament here is much more severe than in other sectors of the economy. Earlier more was said to be better for the government and the State tried to encompass more and more economic and social activities under its exclusive jurisdiction and came out enthusiastically to finance almost to the point of dominance many other sectors of the economy. Higher education is an example in point. But now, less is considered better for the government and it is taking its hands off from the financing and control of so many activities. Larger dependence of higher education on government finance did not occur by way of option, it was rather a helpless compulsion which forced universities to rely almost to the point of totality on government funds. In turn, their academic autonomy was corroded regularly and substantially. In fact, no institution can enjoy academic autonomy unless it has created for itself a dependable and reliable financial autonomy. What is more unfortunate is that despite having lost academic autonomy to a great extent, universities are still not getting full financial support from government and consequently majority of universities and other institutions of higher learning are running in huge deficits. It is this deplorable situation, at the outset, which calls for reorganisation of the financing pattern of universities in the states and in the country.

Further, the amount of huge deficits of the universities might not have been a matter of great predicament earlier, say, a decade before, but now it is certainly a matter of much greater concern. This is so because the attitude of the government has undergone a drastic change. There was a time, not long before, when public sector units and public institutions were established with the consideration

of welfare of the people in mind, now the government in view of the liberalised and market based policies it has started pursuing, is thinking always and for all sectors of the economy in terms of profit and net yield. Loss making institutions and undertakings are being closed. Even public sector banks are likely to be privatised — a complete reversal of government policy in less than 25 years ! Now, if everything is being viewed with the yardstick of profitability and professionalism and given the general mood of reducing subsidies substantially, the emerging crisis in higher education finance appears to be much more severe and challenging.

That higher education is heavily subsidised in India is amply evident from a recent study of Mundle and Rao which states that the beneficiaries of higher education received about Rs. 9,570 crores of education subsidies while paying only 13 per cent of the total cost of education. Under the directives from the IMF and the World Bank, Government of India is hell-bent upon cutting down subsidies (even of food, leave alone higher education) and if possible abolishing these altogether. If it so happens the axe is to fall on the funding of higher education. Whether this change in the attitude of the government is desirable or not is a separate issue of debate and discussion, the present liberalised and market-oriented policies of the government with an eye on profitability, competition and efficiency being taken as granted, the financing of university education in the country is certainly in an unprecedented severe crisis.

Three issues emerge immediately :

1. What are the most valid reasons because of which such a situation has emerged before us ?
2. What the other countries, facing such a situation, are doing to safeguard their system of university education ? and
3. What course of reform should be undertaken here in our country for making the financing of universities dependable, reliable and in a sense, autonomous?

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We now take up these issues one by one with a view to having a correct diagnosis of the present crisis, a comparative understanding of university financing world over in the changed circumstances and preparing a blueprint for future financial reforms in this country to protect and promote university education and academic excellence.

Emergence of the Present Situation

Not much effort is needed to have a full diagnosis of the present financial crisis in higher education. It is common knowledge that university education in India began largely with philanthropic endeavour, private charity and voluntary endowments which remained for long the mainstay of universities' financial existence. Students fees, donations and other voluntary contributions of various kinds played important role. But gradually a declining trend in time set in. The share of income and utility charges on account of laboratories, hostels, examinations, etc. has gradually declined thereby indicating the lack of concerted efforts to augment resources from the beneficiary groups of higher education. The university leadership successively failed in prevailing upon the potential donors of funds for the cause of higher education.

Gradually the noble tradition of voluntary private contributions continued to decline and with the advent of our own government after the Independence of the country, larger burden was successively shifted on the shoulders of the government which itself in those days appeared to be very eager and enthusiastic to embark upon ambitious plans of development of higher education in India. The government's responsibility of higher education financing is continuously increasing but the government's enthusiasm, willingness and of course, capacity to continue to shoulder this burden is declining over time. A sad milestone was reached when government declared a freeze on higher education budget and the UGC in turn refused to increase the grants even to central universities for meeting increased salary and DA, leave alone developmental works.

Continued reliance of universities (almost to the point of totality) on government funds has had a very depressing effect on them by weakening their endeavour to raise their own resources for meeting various needs of higher education. With declining 'own' or 'internal' resources of universities and much less than commensurate increase in public financing to growing needs and that too in an in-

creasing proportion appear to be the most valid reasons of the present financial crisis of universities in India. With severe resource constraint on the one hand and the ever increasing demand for higher education of various types on the other have made things worse.

Foreign Experience

Government's withdrawing from financing of higher education and the higher educational institutions themselves resorting to raising their own resources in a professional manner are now the commonly known features abroad. In our recent study on "Privatisation of Higher Education" we found that there is a visible shift from state supported higher education to self financed system of university education. This is true not only in case of capitalist of market based economies like Great Britain but also in a country like China where economic reforms have been undertaken quite recently on a very large scale. Even in countries like China there are reports of privatising universities and raising the fees several times the per capita income of China in a few instances. Universities in Britain also are gradually making themselves financially autonomous by reducing their reliance upon government funding agencies. Students' fees for several specific courses in several countries abroad is almost equal to the actual per pupil cost of providing that education. Thinking on these lines becomes necessary because financing is being linked with efficiency and productivity.

In a few countries abroad even before the recent economic reforms, certain tax revenues were earmarked for financing higher education. This gave universities assured sources of revenues and at the same time, the tax-payers felt directly concerned with the expansion and quality of education. For instance, local rates in Britain and urban property taxes in USA are exclusively earmarked for financing education. Thus revenues for education do not have to be put in competition with resource allocation for other sectors/services of the economy. Such linking to tax-payers with education or industry with education is very important even as the traditional financing of universities goes on.

Uniqueness of Higher Education Sector

If higher education is taken as an important industry of the economy or an economic sector of the country which needs better management and

efficiency and low cost, then from economic point of view under present situations, it may be said that it is a unique sector consuming resources and producing a service which has both consumption and investment value, and where three basic principles of economics (of the theory of production firm) are flouted for higher education is a sector

1. where the consumers (students) do not purchase in order to be able to consume. They are virtually free-riders,

2. where producers (teachers) produce (or render the services of education) but they do not sell these. That is, there is total absence of pricing and goods differentiation, and

3. where financiers (tax-payers) are not the controllers or managers, consequently the resource use is far from being efficient and is in fact wasteful.

Gross inefficiency is bound to occur in any sector or industry where the above three characteristics coexist. On the other hand, things are in order and most efficient where the consumers are the purchasers, the producers are also the sellers and the financiers are also the controllers and managers. All these three create built-in interests which make the system most productive and efficient.

With the gradual breaking away of the noble, traditional *Guru-Shishya* relations for which India was known in the past, there is no other alternative but to accept the realities and adopt a professional attitude. Due consideration can still be given to the poor and the needy with a suitable mechanism of loans and scholarships and freeships.

Suggested Reforms

Since the current issues in higher education have several dimensions, one is always constrained to take up the analysis and suggest reforms from one or a few particular angles which is never holistic and therefore may leave much to be desired. With this limitation in mind, if we attempt to provide an answer to the vexed problem of higher education from the point of view of economic theory, we would like to say that consumers must purchase and if they purchase they will do so at a reasonable price. When food and fertilizer subsidies are being withdrawn there appears to be no logic in continuing subsidisation of higher education. In fact, government has started thinking in terms of freezing grants to higher education, if not totally withdrawing them for the moment. If grants are

frozen or reduced, the universities will be left with no other alternative but to raise fees to the extent that it reasonably recovers costs involved.

The producers of the service of education (i.e. teachers) should be able to sell the same, particularly the more scarce and specific educational services should be adequately charged. One of the important reasons of the decline in general academic standards in higher education is that it is being offered so cheaply.

Instead of financing higher education from general pool of tax revenues, it would be in the fitness of things if some taxes or educational cess on some taxes are exclusively earmarked for higher education. Since higher education creates income inequalities, a cess on income tax for higher education will not be very much disputed. Linking of taxes with higher education may generate better tax compliance on the part of the tax-payers. University-industry relationship in terms of financing specific types of education, the benefits of which largely go to industries, should be encouraged.

Some more avenues will have to be identified for mobilising additional finance for university education. Universities may start publishing houses of their own: since university faculty provides the largest authorship to books released each year, the profit of which is going to private publishers. If each university or a few universities collaborate together for establishing publishing firms, then apart from having the copyright with the faculty members, universities may also earn publishers' profit. News and feature magazines and even newspapers may be started by universities — because it is their faculty who are the great columnist in newspapers and magazines produced in the private sector. This may generate additional resources and may better use the university talent. M.S. Sodha and B.K. Passi in a recently published article have suggested the following for mobilising additional funds for universities. One may not disagree with these suggestions as well which are given below :

1. Offering attractive programmes for which adequate fees may be charged particularly from foreigners and NRIs or NRIs wishing to support their friends and relatives for these programmes,

2. Generating resources through the channel of sponsored research and consultancy,

3. Undertaking materials and services production activities which universities can produce cheaper and better, and

4. Generating resources through exporting education, particularly to neighbouring countries.

While discussing ways for increasing the 'domestic' or 'own' resources of universities, we never mean that the government should take its hands off from financing the institutions of higher learning. That even in fully capitalist countries higher education still remains a largely state supported sector should not be lost sight of and more so in a developing country like India where we not only have to achieve development but also ensure social justice.

Much needs to be done to reorganise the government funding of universities in India. As of now the inter-university differences in allocation of funds by the UGC are much higher in respect of state universities and deemed universities whereas the same are very low for central universities. The UGC has seemingly not tried to evolve an acceptable method of resource allocation whereby institutions under its purview could be treated equitably in respect of comparable programmes of teaching, research and training. The Report of the 67th VCs Conference held at Pondicherry recommended that "the maintenance grant to every university must be provided by government. To ensure this a special Finance Commission must be constituted to take into account minimum needs of universities."

Thus on the whole we can say that with regard to reorganising higher education finance, a two-pronged strategy is needed : one, the existing system of government funding needs to be rationalised and made more effective and equitable, and second, each university as an individual firm should evolve its own programme of mobilising resources so that it gradually emerges as a professional university. This is precisely towards which the system of higher education will be moving slowly but surely in the days to come.

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Management of Scientific Institutions in India

A New Model

Pawan Sikka*

Science and technology policy and plans cannot succeed unless efforts are made to develop necessary infrastructure for carrying out the various projects and programmes in the country. The policy directives made in the First Five Year Plan period (1951-56) led to the establishment of several R&D organisations in the government, public and private sectors, in all the fields of Science & Technology ranging from aeronautics to rural development in the next forty years. The process of institution building continued and during the Seventh Five Year Plan (1985-90), an urgent need for developing linkages among these scientific, educational and industrial institutions, was felt by the scientific community so that these may channelise their efforts in providing benefits to the people, by the application of science and technology in India.

Structural System

We have an experience of several models in the management of S & T infrastructure in India. These are :

- * *Agencies structure* like CSIR, ICAR and ICMR which are multi-institutional and have mandate to develop S&T in many broad areas ;
- * *Commission structures* like Atomic Energy commission and Space Commission — dealing in focused, time bound and large programmes with functional autonomy ;
- * *At the institutional level* there are national laboratories, institutes and centres covering various areas for the development of science and technology in the country.
- * *Other broad type of structures* which bring together various agencies and institutions for coordination purposes i.e. for inter-institutional and/or interdiscipline aspects. Subject-oriented Departments and Ministries of the Government of India.
- * *Private In-house R & D Laboratories.*

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There are about 2,519 scientific institutions in India, as on April 1993. In addition to the S&T Departments, State Councils for Science & Technology have also been set up in almost all the States/ Union Territories of India for the overall responsibilities of coordinating the promotion of S&T in their respective domains.

There are many institutional programmes, inter-institutional ones too and mission — mode projects with large investments involving several organisations at different places in the country. It is a challenge as to how to bring them together into an effective management structure to ensure proper return from heavy investments. There is a need, as felt in some circles, for creating a corporate type of structure to manage Science and Technology in India. The health of science in India, was even a matter of great concern to the Science Advisory Council to the Prime Minister, (1986-88) which have suggested several measures for the overall management of science in India.

A national coordination body, say a National Science and Technology Commission be established in the country, which should 'synchronize' the science-advisory policy-instrument and the creation of organisational structure with the S&T component/ emphasis indicated in the national Five Year Plans so that the entire science planning exercise is geared towards accruing all the benefits of science and technology to the masses as well as leading to the economic development of India.

New Model

The proposed National Science and Technology Commission for India (NSTC), should have the following structure (Fig. 1) to comprehensively manage the science and technology in the country. For example :

- i) *The first component* should oversee the functioning of all the 9 scientific departments such as DST, DBT, DSIR, DAE, DOS, DOE1, DOE2, DOD and DNES as well as three scientific agencies (CSIR, ICAR and ICMR) in terms of
 - * allocation of funds,
 - * identification of priorities in research in the

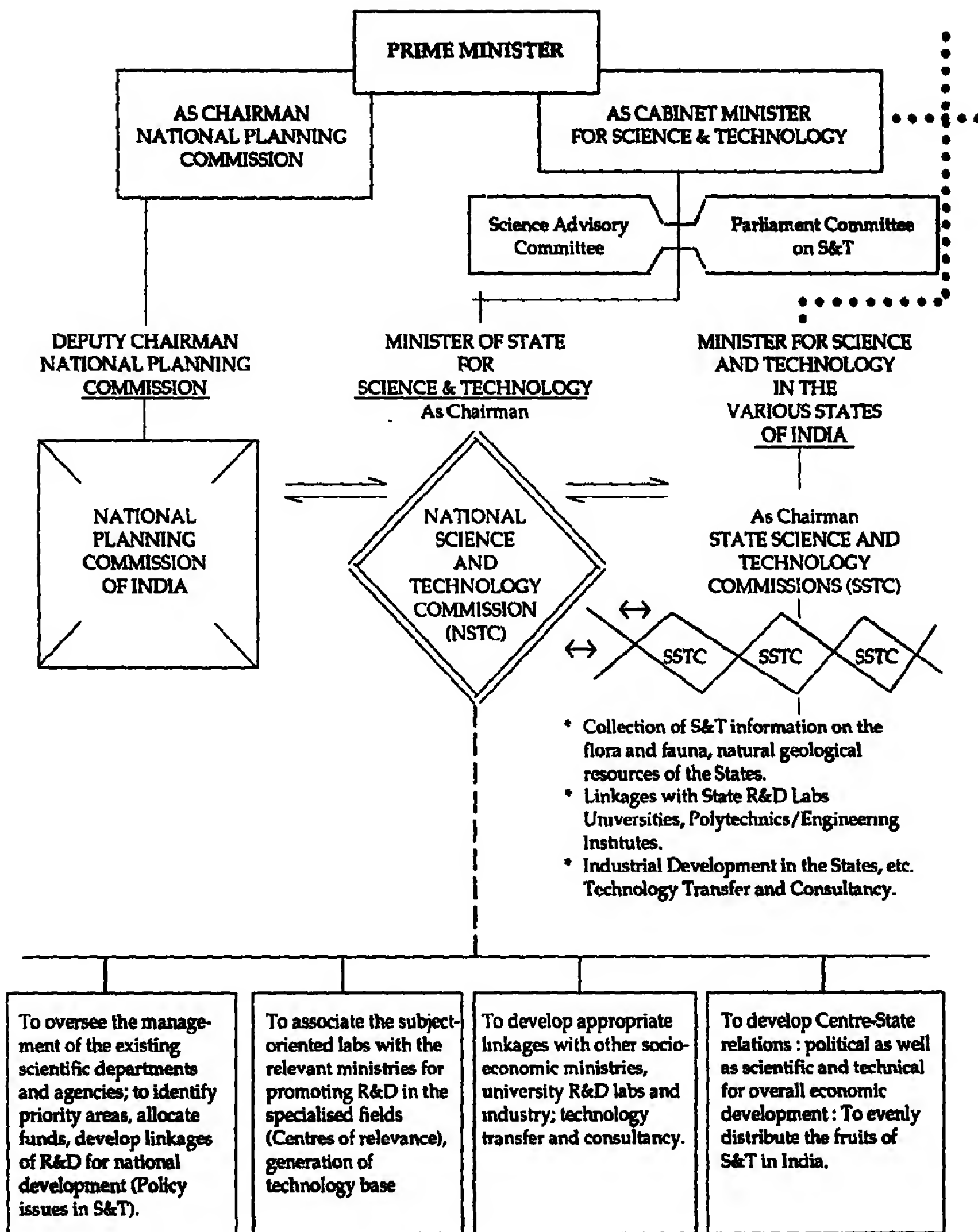


Fig. 1 : A Functional Model for the Proposed National Science and Technology Commission (NSTC), India.

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area of relevant intermediate and high technology,

- * avoid unnecessary duplication to save efforts, time and money, and
- * develop proper linkages and identify and plan international cooperation programmes in education, manpower development, joint ventures, etc.

ii) *The second component* should focus on the attachment of the special laboratories with the concerned ministries i.e.

- * Food & Technology Research Laboratory with the Ministry of Food & Processing,
- * Leather Research Laboratory with the small scale industry or khadi and village industries, and
- * Chemical Laboratory with Ministry of Chemicals and Fertilizers, etc.

The role of the NSTC through its concerned scientific departments/agencies should be to promote/fund/support the basic Science and Technology components by encouraging it to develop the R & D in the latest fields. This will result in tackling the immediate programme in the chosen area and improving its output wherever required for the benefit of the masses.

- iii) The establishment of mechanism for the development of appropriated science and technology linkages among the other sectors of the economy form the *Third Component* of the NSTC, e.g. The links with the Ministry of Human Resource Development should result in identifying the needs of training requisite manpower in new & high-tech areas, enhanced support to fundamental sciences, etc. Also, to encourage the inter-ministerial, inter-institutional coordination (say the development of automobile industry coordination between Petroleum, rubber-tyre, road construction, etc. is essential for the overall welfare of the people. The activities of the present science and technology advisory committees (SAC) can be activated under this head. This can develop appropriate linkages among the universities, R& D laboratories and industrial sector.
- iv) Centre State relations in the areas of science, technology/industry and education/human resource development should occupy the

fourth component of the proposed NSTC. This would require :

- (a) the establishment of State Science & Technology Commissions (SSTC) in all the states of India to carry out the coordinated R&D work of all the science and technology institutes in the states. Its chairman should be either of the rank of a state minister or an eminent Scientist with the state minister rank wherever the state minister is not appointed for science and technology portfolio.
- (b) Good scientific linkages between NSTC and SSTC as well as political linkages between the Union Minister of State with the state ministers for science and technology, under the overall guidance of the prime minister as a Cabinet minister for science and technology.
- (c) Carrying out regular dialogue between the cabinet minister/union minister of state for Science and Technology (who would be the chairman of the NSTC) with the state ministers of science and technology and the chairmen of SSTC in identifying the current situation of natural resources of the states, problems of the local industry and referring them to the respective advising laboratory/ministry for remedial measures; allocations of funds for such purposes, provision of common R&D facilities and participation in international programmes, transfer of know-how developed in one state to the other saving time, efforts and money of the latter. The activities of the already existing State Science and Technology Councils in India can be accelerated within this system. The State Ministers for Science and Technology should be brought within the umbrella of the Union Minister for Science and Technology. It will provide political support to scientific programmes in the country.
- v) Finally, the NSTC should have direct links with the national Planning Commission with a view to integrate the planning and development of science and technology with the overall economic planning for the country. The Planning Commission in consultation with the NSTC can identify priority areas, recommend them for fund allocations so as to focus energy on these in a mission mode concept for the delivery of desired results.

The development of Indian Science and Technology has been, on the one hand in relation to the

great advances that have taken place in S&T in the world as a whole, and on the other hand, to the compulsions of ensuring that it is relevant and serves the overall purpose of development of the country. These efforts have led to the capability building in many areas of S&T towards achieving self reliance in the country.

Efforts should be made to develop "Centres of Relevance" in the useful areas in India. Also, certain promising areas which have shown "spark" in organisations be developed as "Centres of Excellence", resulting thereby in both the cases, or in shaping the organisations or departments of science and technology as "Institutions" of national as well as of international importance. This exercise would result in creating mechanisms, as centres of relevance, to use science and technology for satisfying the needs of people (as an inward looking policy) and achieving self-reliance in the country. And, also to establish centres of excellence so as to provide strength to Indian science for competing among the scientific community of the world (as an outward looking policy) and work beyond self-reliance. In this context, there is an urgent need for providing a new work-culture to the existing scientific infrastructure in India so that it may function

effectively in the 21st century.

[The views expressed here are the personal views of the author.]

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Accountability in the Institutions of Higher Education in India

Velagalety Krishna Moorthy*

Accountability is a complicated process and cannot be discussed in isolation. To understand and implement Accountability it is necessary to look into various organizations and institutes of higher education and their powers, functions and responsibilities. The apex body for higher educational institutes in India is the University Grants Commission.

By an act of Parliament (The University Grants Commission Act 3 of 1956) the University Grants Commission (UGC) came into existence on 5th November 1956. The act has been amended in 1972, 1984 and 1985. The UGC, in addition to funding the institutes of higher education also has the responsibility in consultation with universities and other institutions to take all steps for the promotion and coordination of university education, maintenance of standards of teaching, examinations and research in the above institutions. It has the power to withhold funding to institutions which violate the UGC norms. The commission follows the policy decisions taken by the central government and in any dispute between the UGC and the central government the decision of the latter 'shall be final'.

Institutes of higher education, notably the universities, have come into existence by an act of parliament in case of central universities and by an act of state legislatures in case of state universities. Each of these universities have their territorial jurisdiction and they function within that jurisdiction with the help of appropriate statutes and ordinances. The University of Delhi is taken as a typical example while discussing accountability. The University of Delhi came into existence by an act of parliament (Act No. VIII of 1922) which received the assent of the Governor General of India on the 5th March 1922. This act has been amended in 1943, 1952, 1961, 1970, 1972 and 1981. Amendments of the act of 1952 and onwards have got the assent by the President of India who is also the Visitor of the University. The University of Delhi has a student popu-

lation of more than 1.5 lakhs and it consists of constituent colleges, some partly autonomous institutions. It has also got different types of colleges e.g., the university maintained colleges, Delhi administration maintained colleges, and private trust colleges. In addition it has a School of Correspondence and Continuing Education and also has a Non-collegiate Women's Education Cell and an External Candidates Cell. The act through its statutes and ordinances clearly defines the powers and functions of the University and its constituent units. The powers of the University include :

- a) to provide instructions in various courses, organize research, take steps for the advancement and dissemination of knowledge;
- b) to confer degrees, diplomas, etc;
- c) to institute teaching posts, to appoint or recognize persons for various teaching posts;
- d) to maintain colleges and to admit to its privileges, colleges not maintained by it or to withdraw privileges; and
- e) to declare, with the consent of the colleges concerned, in the manner specified by the Academic Council, colleges conducting courses of study in the faculties of medicine, technology, music or fine arts as autonomous colleges. The Court, the Executive Council, the Academic Council and the Finance Committee are the main authorities of the University. The Court is the supreme authority of the University, Academic Council 'shall be academic body of the University and shall have the right' to advise the Executive Council on all academic matters and the Finance Committee's decisions are most important for the maintenance of financial discipline of the University. The Vice-Chancellor is the chief executive authority of the University and is assisted by a team consisting of the Pro-Vice-Chancellor, Director, South Campus, Dean of Colleges and the Registrar. Recently the Registrar's post has been made a tenure post with enhanced academic component.

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The details of the act, the statutes, ordinances, powers and functions of the University are published by the University of Delhi, vide their Calender, Vol I (the acts, statutes and ordinances) in 1988 and Calender, Vol II (Appendices and regulations) in 1989. All the colleges maintained by the University are governed by ordinance XX and the colleges other than those maintained by Govt of India by ordinance XVIII. University appointed teachers are governed by ordinance XI and the college appointed teachers by ordinance XII. The University of Delhi is unique in that the service conditions, pay scales of the university and college teachers and non teaching staff are identical but for some minor differences. Each college has its own governing body which elects its chairman and appoints its treasurer. The Principal is the member-secretary of the governing body and also is the chief executive authority of the college. Each college has a staff council which takes decisions with regard to

- a) preparation of college time table;
- b) allocation of extra-curricular work of teachers not involving payment of remuneration;
- c) organizing extra-curricular activities of students, sports, games, NSS and academic societies;
- d) laying down guidelines for purchase of library books and laboratory equipment in consultation with appropriate departments; and
- e) organizing admissions.

The staff council shall also make recommendations in respect of

1. introduction of new teaching posts in the departments and expansion of the existing departments;
2. formulation of admission policy within the framework of the policy laid down by the university;
3. formulation of guidelines regarding arrangements for the residence and welfare of students in consultation with appropriate students organization;
4. formulation of guidelines regarding discipline of the students; and
5. formulation of policies for recommending names of teachers for participation in seminars

and conferences and financial assistance to teachers.

The staff council 'shall function through its committees' and the convener of each committee is elected by the staff council. Each college has a joint Consultation Committee (JCC) and students and the staff. The University has a set of norms for the pattern of non-teaching and technical staff. Thus the Delhi University system is well organized.

As has been stated earlier, the UGC has the responsibility to see that academic standards are maintained by the institutes of higher learning. In pursuance of this the UGC vide its letter No. F-1-28/84 (CPP)/Vol III dated November 18/26, 1988 has sent guidelines, to the Registrars, regarding minimum number of actual teaching days in an academic year, workload of teacher in universities and colleges and examination reforms. The salient features of these guidelines are :

- a) to have a minimum of 180 actual teaching days with a suggestion that it should be raised to 200;
- b) admissions to be completed before the last day of the long vacation and examination results to be compiled and declared during the long vacation to enable smooth admissions;
- c) that the university should see to it that a working day in a department or faculty doesn't become just a few hours of the forenoon and the time table should be spread to give an 8 hrs a day working schedule;
- d) while suggesting that each and every topic listed in the syllabus need not be taught in the class, emphasizes that it will be counter productive to hold examinations on reduced number of courses;
- e) no examination should be held without fulfilling the requisite numbers of lectures/tutorials as laid down by the university and the examinations should be conducted in a fair and impartial manner;
- f) a teacher should not have to teach or lecture for more than three hours a day and in postgraduate teaching no teacher should have more than 2 courses to teach.

The maximum workload should be the same in all departments and for all teachers. Their schedule of 40 working hours per teacher per week is given below.

UNDERGRADUATE CLASSES

(a) Workload of Lectures in Non-Laboratory/ Field work subjects

Activity	Average No. of hours per week
i. Teaching	16
ii. Testing/Exams	2
iii. Tutorials	4
iv. Preparation of Teaching	10
v. Supervision of extra-curricular work	4
vi. Administrative work	4
Total	40

Where extra-curricular work or administrative work is not assigned or unfortunately tutorials do not take place, teaching work may be slightly increased, but as far as possible a teacher should not have to teach or lecture more than three hours per day

(b) Workload of Lecturers in Science Subjects or where field work is necessary

Activity	Average No. of hours per week
i. Teaching	16
ii. Lab work	4
iii. Testing/examinations	2
iv. Teaching preparation and lab-setting	12
v. Administrative activities	4
vi. Extra-curricular activities	2
Total	40

POSTGRADUATE CLASSES

(a) Workload of Lecturers in non-laboratory/ Field work subjects

Activity	Average No. of hours per week
i. Teaching	10
ii. Testing/Exams	1
iii. Tutorials	4
iv. Preparation for Teaching	10
v. Research	10
vi. Own Reading/Studies	5
Total	40

(b) Workload of Lecturers in Science Subjects or where field work is involved

Activity	Average No. of hours per week
i. Teaching	10
ii. Testing	1
iii. Laboratory work	4
iv. Teaching preparation and lab-setting	10
v. Research	10
vi. Own Reading/Admin	5
Total	40

The UGC also has taken steps to improve standards of teaching by arranging various seminars, symposia and refresher courses to teachers through the academic staff colleges.

A committee was appointed to formulate the Code of Professional Ethics for University and college Teachers; the report of the task force was accepted by the commission on 27th December 1988 and circulated to all the universities and colleges (DO No F1 - 4/87 (PS- CELL) dated 17th February 1989) by the Chairman. It stipulates the goals of higher education, teachers and their rights, teachers and their responsibilities, the relationship between teachers and students, teachers and other teachers and authorities, teachers and non-teaching staff, teachers and guardians and teachers and society. The task force rightly attached great importance to the role of a teacher in the building up of a country. The task force had on it the leading office bearers of AIFUCTO.

A committee under the chairmanship of Prof. A. Gnanam, the then Vice-Chancellor, Bharathidasan University, Tiruchirapalli, appointed by the UGC, submitted a comprehensive report entitled 'Towards New Educational Management' on 24th January 1990. The committee has dealt in detail the latest techniques of educational management, the concept of greater autonomy both in academic matters and financial management to the universities and accountability of the institutes of higher education to society on whose funding the institutes have come up. Some of the important recommendations are :

- i) the nomenclature of non-teaching staff is not at all conducive to educational administration and teachers or administrators in an educational system must be first and foremost educational personnel;

- ii) the management of the universities should be based on the principles of participation, decentralization, autonomy and accountability;
- iii) the autonomy pleaded for the university should percolate down to the various organs of the university system;
- iv) the ultimate objective of management of higher education system should be that every university department becomes autonomous and every college is able to exercise meaningful autonomy;
- v) autonomy means the freedom to do what universities are expected to do and not what they like to do and certainly not to do what they are not expected to do; and
- vi) the society is entitled to demand that the members of the academic community individually and collectively be made accountable in concrete visible terms.

For the purpose of accountability the Committee has suggested academic, administrative and financial auditing. Thus UGC is trying to do its best as is laid down under the act.

Let us now concentrate on how the University and its colleges are functioning vis-a-vis the accountability to the society. Democratic decentralization of the university system is operating for over 20 years now. All signs indicate that the concept has not been understood properly leading to a large scale inaction and indifference. It is presumed, and rightly so, that if the Vice-Chancellor is a brilliant academician he will be able to bring round the University into a unit which can look after the social responsibilities. The University of Delhi can boast of a string of brilliant academicians as their Vice-Chancellors. To what extent the decline of the University of Delhi is halted? Is it really manageable? A detailed look at the present state of affairs of the University of Delhi clearly shows that the only way for the University to survive is to bring in the concept of accountability in all its seriousness. Accountability as a topic was never discussed so seriously in the mid-fifties and sixties in the University of Delhi as is being done now. Those were the "Golden days" not only for the University of Delhi but for the entire country in terms of standards of higher education. Only those who were interested in higher education used to join the university system, those for whom teaching was the ultimate goal used to join the teaching profession. All around

there used to be an academic discipline not on paper or in the rules book but in actual practice. Eminent people like Prof. D.S. Kothari, Prof. T.R. Shadri, Prof. P. Maheswari, Prof. V.K.R.V. Rao used to occupy the university positions. There used to be mutual trust and mutual respect for each other. This does not mean that there used to be unanimity. They did differ on issues purely on academic basis, that too with dignity. When I used to narrate my experiences of the University of Delhi when we were students, one of my colleagues labelled them as grandmother's stories. This is one word explains the difference between mid-fifties and now. In earlier days there was no necessity for someone to talk about accountability as the university community used to look after the societal educational needs and the society never doubted it, whereas now there is mutual mistrust and disrespect and hence accountability has become the most important factor being discussed in institutes of higher education. Probably it is more necessary now that one puts everything on paper and try to follow and adhere to the guidelines strictly. Someone can as well ask what if in spite of all the efforts if one tries to violate the system?

Accountability, whenever it is discussed brings to the fore the teaching community and as a teacher I do understand the significance of this. Teacher is the one who teaches not merely from the syllabus but who tries to impart knowledge to the students so as to enable them to take on their shoulders the responsibility to lead the country to a brighter future. If one visits the continent of Africa people there respect the teachers from India. Once Kenneth Kaunda, President of Zambia commented that 'the teachers from India are doing proud to their own country by their sincerity and honesty in teaching the locals?'

Teacher's role has been the most important in the Delhi University system since its inception. In spite of whatever is said about our teaching profession, the University of Delhi is surviving under tremendous odds only due to the efforts of sincere and honest teachers who form a large majority of the Delhi University teaching fraternity. As has been said earlier, the University of Delhi is well organized. The Academic Council lays down the guidelines for the workload, paper wise, of all the courses including the number of tutorials and preceptorials that have to be taken. The tutorial scheme had started in 1958 in the University of Delhi and had been found to be extremely useful in those

years but is not taken seriously these days. What is the accountability the society expects from the teachers? They expect the teachers to do justice to their wards as per the guidelines given by the Academic Council. The question is to what extent in the university system the guidelines of the academic council are implemented? One can even ask at this stage whether the teaching community is following the code of professional ethics for university and college teachers as prepared by the task force (set up by the UGC) which had on it the office bearers of the AIFUCTO? Did our own association (Delhi University Teachers Association), of which till recently I happened to be a member, and a proud one at that, ever prepare its own code of conduct? It did try a number of times but unfortunately could not come out with any concrete suggestions and steps. Each and everyone in the teaching community of the university system now wants to have a code of conduct of their own and everyone wants accountability to be enforced in principle. Is it not better that we prepare our own code of conduct? First of all whom are we accountable to? Obvious answer is our own students. They are joining the Delhi University system hoping that their academic future is safe in the hands of the teaching community. Why not we start with an assessment of our performance by our own students? A few of my colleagues in Sri Venkateswara (S.V.) College (University of Delhi) on their own have started this and their findings are highly encouraging. In the Sociology Department in S.V. College, in a departmental meeting they had discussed the student assessments of their teachers and have taken adequate steps to rectify the shortcomings. This made a tremendous difference in the results of these students at the university examinations. Some colleagues may say that the students are not mature enough to evaluate their teachers. Obviously this argument is without any justification. A group of us were teaching at Asmara University in Ethiopia (Presently Asmara is the capital of *Eritrea*, a new country). I had personally seen the assessment of teachers by the 1 yr students. It is really surprising that they had evaluated the teachers so well. This evaluation is irrespective of the grades they were given by the concerned teachers. One of my colleagues there, who is presently a senior reader in a college of the University of Delhi, gave some of them 'D' grades but all of them gave him 'excellent' when they evaluated him. The second assessment of the teacher can be from his colleagues in the department and also the head of the department and the head of the institution. I am sure many of the teachers will have unjustified

apprehensions of these assessments. In an underdeveloped country like Ethiopia if these could be done, why not in our own country? In a college system each teacher also should assess his/her other colleagues, the teacher in charge and also the Head of the institution. Obviously a notable feature of this exercise demands selection of competent teachers at various levels, either as a lecturer, reader, professor or as a principal. It is certainly more important when filling up the senior positions. To get the maximum advantage from a teacher, it is the responsibility of the concerned seniors to see that teachers have proper incentives, like housing, emoluments and professional independence within the over all policy guidelines of the University. Someone can always ask, is it taken for granted that if teachers stay on the campus they will spend more time attending to their students and the college? Well, my answer is 'Yes' with a remark that exceptions are always there.

Accountability, as I said, brings to the fore the teaching community; who else are accountable in the institutes of higher learning? It should start from the top i.e. The Vice-Chancellor and his team, the Court, the Executive Council, the Finance Committee, the non-teaching and technical staff, the students, and finally, the society itself.

As the institutes of higher education are accountable to the society, so also the society is equally accountable to the institutes of higher learning. The society is responsible to see

- a) that the institutes of higher education are not politicized;
- b) they should not make use of the university community to settle their scores; and
- c) they should see that the universities are funded properly.

In USA each tax payer pays a particular amount for education. Public contributions are the main sources of income for many important institutes of higher learning in USA. A surprising thing in Delhi is that a parent doesn't mind paying Rs. 500-600 p.m. to get his ward educated in a good school. When it comes to the college what does he pay? Rupees fifteen as tuition fees, which is probably being charged from the forties. Is there any justification in charging such a low tuition fee? For the transport they pay Rs. 12.50 when the student joins the University, while probably they were paying around Rs. 150/- to Rs. 200/- p.m. at the school

level. This sudden decrease in expenditure when the ward enters the college from school makes the parent more complacent. The student will have more pocket money, so a situation is created where a student is no more a financial burden on the parent and the parent suddenly loses count of what his ward is doing in the college. Many a time parents do not respond to communications from the colleges. If the tuition fee, for example, was the same as in the public school and the bus pass also of the same value, could a parent be silent to what was happening? Could a student enjoy the absence of a teacher in the classroom? Could the teacher take the liberty of abstaining from the classroom? I am not suggesting privatisation of higher education. What I am afraid is if we do not take appropriate steps to check the deteriorating situation in the institutes of higher learning, privatisation is bound to come in.

Is it not necessary for the executive authorities in the colleges and the university to be accountable? Are the Court, Executive Council, Academic Council and the Finance Committee not accountable? They are framing policy guidelines—academic, administrative and financial. Is it not necessary for these bodies to review what is happening to their decisions? Are they implemented, and if implemented properly or not? One can accuse the outside agencies because it is very easy to do so, self criticism needs courage.

What is the role of the University Departments in the maintenance of academic excellence? As per the rules of the Delhi University, it is the University Head of the department who suggests to the college the list of candidates to be called for interviews for selecting teachers in the colleges. Of course, they have to follow the guidelines laid down by the Academic Council. Neither the Chairman of the college Governing body nor the Principal of the college can call anyone for interview other than those short listed by the Head of the department. During my tenure as the Principal I had seen that most of the University Heads of the departments were highly cooperative and academic in nature. But there were exceptions. The departments kept the file sent by the college for months, and many a time one could easily guess who was going to be appointed. Unfortunately there is a strong politicalization of university departments especially in the humanities. What can the principal or the chairman of the college governing body do? The only conso-

lation is that no one has a vetoing right at the selection committee. But if both the university Head of the department and university expert don't agree on a candidate, however brilliant the candidate may be, he/she cannot be appointed. If anything happens in the selection, the university Head of the department and the university expert should be made accountable. But is it done normally? The Principal of the college is the villain of the piece on each and everything that happens. The workload of the college departments is more or less decided by the university department, sometimes ignoring the role of the Academic Council. The university department and the faculty consists of essentially university professors and readers and a few of the college teachers. Each department is anxious to place their Ph.D./M.Phil/M.A. students in colleges. How can one do that? Revise the syllabus, restructure the syllabus and try to increase the number of papers and try to split one paper into two or three. The university guidelines are for a paper of 100 marks you can have 5 or 6 periods and for a paper of 50 marks 2 or 3 periods, it always turns out to be 6 periods for a paper of 100 marks and three periods for a paper of 50 marks. Then we have the tutorials, probably the 9th wonder of the world. I had seen some departments taking it very seriously but unfortunately in many a department it is an exercise on paper, even that can't be done taking into account the Academic Council guidelines regarding tutorials and preceptorials (for the pass course each group has 12 students and in honours 8 students will form a group, paper wise). If a college has 2-3 thousand students, and has 20 different departments, is it possible to frame a time table to accommodate tutorials, especially when a large number of teachers would like to come at 10 AM to the college and be off by 12 noon? When a colleague was given a class at 10.30 AM by his department, his comment was that he has been placed in the evening college. The former Principal of a reputed campus college once said that irrespective of what the time table is, his college starts functioning after the university specials arrive and the classes are over by the time the university specials leave (9.30 a.m. - 3.30 p.m.). If one goes round the colleges of the University of Delhi after 1 p.m., leaving the science block, one can see empty classrooms; the same is true with some departments in the Arts faculty in the main university. Is it not astonishing that this is happening in a central university, that too in the capital city of the country? It is interesting to go through Amrik

Singh's article "Can we afford part-time colleges" (*The Hindustan Times*, Oct. 3, 1993, page 4 Sunday Magazine). One of my colleagues in S.V. College once wrote a very lengthy letter narrating the decline in the standards of education and absenteeism of the teachers to the then Vice-chancellor and marked a copy to me. I had informed my colleague that no reply can be expected since the Vice-Chancellor will not be having time to go through his letter and surely, the reply never came. I could understand my colleague's agony, probably, we belonged to the past. It becomes frustrating for a genuine teacher. As I have stated, a large majority of them are genuine teachers in the Delhi University system, and when he/she loses his/her patience either he/she surrenders to the anarchical situation or says good bye to the profession. Democratization and decentralization without accountability will lead to disastrous conditions leading to anarchy. In adhoc appointments of teachers in colleges, the Principal has to get a panel of names from the university head of the department and then select one of them. Certain departments try to give the order of preference. But a majority of the departments send a panel. The principal can appoint one of them. Well the principal requests the teacher-in-charge to consult their senior most colleague and decide the candidate most suitable from the panel; at least some in-charges feel bad when asked to consult their senior most colleague. Democratization and decentralization is only when it concerns the Vice-Chancellor or the Principal. It doesn't apply to the teacher-in-charge who is on rotation for a year or two ! Is it not funny ? All these can be put into their right places provided those who are with the university system are made accountable. Did the Finance Committee visit any college or university finance departments or the examination branch to find out whether everything was going on as stipulated by them ?

What about the examination system of University of Delhi where several thousands of questions papers are set every year; the number of reevaluation applications are increasing, sometimes marks are revised upwards abnormally. The confidentiality of the examination branch is under a cloud. Why not make them accountable. Any leakage of question paper, any abnormal increase of marks during reevaluation, someone has to be made accountable. In the university system the examiner A gave say X marks, during reevaluation it goes to the examiner B and if there is a difference of more than 5% in marks given by A and B it goes to examiner C. Thus

there are 3 (A, B, C) examiners involved, one of them is correct. Why not at least debar the other two from examinership for gross negligence of duty? I doubt whether any such action had ever been taken.

The only solution to bring back the university to its earlier glory is :

- to see that everyone is accountable in the university system;
- to have smaller autonomous campuses, each headed by the rank of a Pro-Vice-Chancellor;
- to make all the colleges autonomous and allow them to survive by their own academic excellence : (and I am sure they can do it); and
- to give proper incentives to teachers and the other staff who are more sincere and honest. One of the ways is to have varied increments e.g. 4-15%, as is done in USA, depending on the performance.

The teachers, students, the non-teaching staff, the authorities and the society have to put their heads together to bring back the glory of the institutes of higher learning in India.

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Vocational Education and the Teacher

Beena Shah*

Background : Some Landmarks

The concept of vocationalisation of education is not new. It originates from Wood's despatch in 1854 which highlighted occupational education for a large segment of student population. In Independent India, the Radhakrishnan Commission (1948) emphasized the need for vocational education "to meet a variety of needs of our young men and women giving a vocational bias to their courses by retaining at the same time their value in assistance of general education as preparation for university courses". The Mudaliar Commission (1952) emphasized the terminal nature of the post-secondary stage in contrast to the college preparatory nature of the preceding Commission. The Commission felt that at the end of this a student should be in a position, if he wishes, to enter in life and take up some vocation. A chain of multi-purpose schools were established in response to these recommendations throughout the country.

The Education Commission (1964-66) popularly known as Kothari Commission noted the uncontrolled meaningless rush to universities and the drafting of university students for a variety of occupations, which do not require the university education for the types of jobs they are performing. The Commission suggested restructuring of education as 10 + 2 + 3 pattern and recommended distinct streams of general and vocational education at higher secondary stage to intercept the goalless climb-up of the youth on the educational ladder and divert them to productive path. The Commission felt that it should be possible to divert 50 percent of students to the vocational stream. The Parliamentary Resolution on National Policy of Education (NPE 1968) accepted the recommendations of the Commission and emphasized the "effectively terminal nature of the vocational stream of studies". In 1975, the Central Advisory Board of Education (CABE) endorsed the Policy Resolution and resolved to adopt 10 + 2 + 3 pattern of education and reiterated that the + 2 stage of education should be regarded not merely as a college preparatory, but a period for preparing an increasingly large number of school leavers for different vocations in life. The CABE identified National Council for Educational Research and Train-

ing (NCERT) to prepare curricula and help the state governments in implementing vocational education. In 1978, the National Review Committee reviewed the NCERT document — "Higher Secondary Education its Vocationalisation", studied the syllabi and courses of CBSE and State Boards and gave detailed concrete recommendations for introduction of vocational courses at the higher secondary stage. Its report was published as "Learning to Do". A few states started the courses at senior secondary level.

In 1985, the National Working Group on Vocationalisation of Education, led by Dr. V.C. Kulan-dai Swamy, undertook extensive review of vocational education in the country and provided guidelines for development of the programme. It formulated the concept of vocationalisation at different levels and recommended the linkages required among different agencies running vocational programmes, setting up of a well knit managements system, an action plan for promotion of vocationalisation in the country and liberal central financing for achievement of the target fixed. The National Policy on Education (NPE 1986) accorded a very high priority to this programme. The Government of India, in pursuance of the Policy, launched a centrally sponsored scheme to promote vocational education. Under this scheme assistance is being given to state governments/union territory administrations and non-governmental organisations for approved purposes. NPE 1986 has set a target to cover 10 percent of higher secondary students by 1990 and 25 percent by 1995.

In 1990, Ramamurti Committee reviewed NPE 1986 and POA 1987. It has emphasized to pursue vocationalisation of education vigorously. The revised policy formulations in 1992 retain the policy framework laid down by the NPE 1986 and POA 1987, but for two modifications. First the target for coverage under vocational courses has been revised — 10 percent of the higher secondary students by 1995 and 25 percent by 2000. Secondly, they envisage children at the higher secondary level being imparted generic vocational courses which cut across several occupational fields and which are not occupation specific.

Vocationalization at Tertiary Level

University Grants Commission promoted the

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process of restructuring of courses with a view to make them more relevant to the world of work and needs of the country since Fifth Five Year Plan. By March 1991, 9 universities and 208 colleges had introduced restructured courses. The lack of momentum in implementation of restructured courses could be attributed to non-availability of specialised teachers, limited opportunities for practical training, course contents and absence of clear linkages between these courses and improving the job prospects. Recently, UGC has reviewed the programme in view of the provisions of Programme of Action 1992, which envisages to expose the students at the first degree level to the world of work by including application oriented courses in the curriculum and providing opportunities for project and field work.

A committee was constituted by UGC to examine the vocational courses at + 2 level, to identify areas for which courses may be developed at first degree level, to provide possible selective vertical mobility for students passing out + 2 vocational courses, and to suggest infrastructural needs for this purpose. The Committee has submitted the Report to UGC. The details of this Report need separate discussions.

Goals & Objectives of Vocational Education

The prime goal of vocational education is to fulfil the manpower requirement for national development and the social requirement for employment. Only vocationally competent manpower can increase productivity in all sectors of economy, create wealth, ensure socio-economic stability and bring prosperity to the nation. Realisation of this need calls for appropriate educational input in manpower development. Based on these goals the objectives of vocational education are :

- to fulfil the national goals of development and the removal of unemployment and destitution.
- to impart education relevant to productivity, economic development, and individual prosperity.
- to meet the need for skilled and middle-level manpower for the growing sectors of economy, both organised and unorganised.
- to attract sizeable segment of population to varied vocational courses so as to reduce the mad rush to general education.
- to prepare students for self reliance and gainful employment.

Success of Centrally Sponsored Scheme

The programme has met mixed success. As per information given in POA 1992, at the end of 1991-92, 12,543 vocational sections were approved in

4,400 schools thereby creating facilities for diversion of about 6.27 lakh students (25 students per vocational section in classes XI and XII) at the + 2 stage. This accounts for 9.3% of students enrolled at this stage. Although quantitatively the implementation of the scheme at the + 2 stage has been fairly substantial, in qualitative terms, there remains much to be done. Some essential components for success of the programme are :

- The credibility of the programme should be established. This would depend on its quality, relevance and acceptability.
- Education and employment linkages should be firmly established preferably through formal Memorandum of Understanding.
- Adequate infrastructure both physical and academic should be provided.
- Training programme for teachers — both pre-service and in-service.
- Training of teacher trainers.
- Effective management structures at all levels — at the centre and in the states/U.Ts.
- Equivalence among the vocational, technical and academic courses.
- Development of curriculum in consultation with employers.
- Need for active cooperation of other government departments with the Department of Education at the central and state levels.
- Assured supply of funds over an extended period of 5 to 10 years.

Teacher Training

POA - 1992 states "it is the teacher who interprets and implements the Educational Policy in actual classroom situation and as such is the most crucial input. Presently, pre-service training for vocational teachers is practically non-existent; in-service training is not adequate and competent vocational teachers are often not available in desired numbers. Teacher training, therefore, requires priority attention".

The present vocational courses of two to four weeks are being managed by providing short term training to existing teachers by NCERT/SCERT. The SCERT is the nodal agency at the state level for coordinating teacher training programme. The existing training is not adequate to develop competency and skill among teachers for imparting vocational education effectively; resulting in poor quality output of students and thus defeating the objectives of the Programme.

Quantitative Need of Trained Teachers

According to target of NPE 1986, 25% of students would be diverted into vocational stream at the higher secondary stage by the end of 1995. Assuming total strength of students at + 2 stage to be about 3 million, this would mean that by 1995, there should be about 0.75 million students in vocational stream. Further, assuming a class size of 25, one need atleast one full time teacher for a two-year programme, the rest being managed by part time teachers. Thus, there will be a need of trained teachers by the end of stipulated time frame. According to new target as envisaged in POA 1992, 10% diversion of students by 1995 and 25% by 2000; the need of trained teachers (assuming the same 3 million strength of students and class size of 25 students and other calculations) by 1995 would be 12,000 and by 2000, it would be 30,000. According to the POA 1992 a phased and well structured programme of pre-service teacher training will be drawn by Central Institute of Vocational Education (CIVE) and by the end of 8th Plan, about 1600 teachers will be imparted pre-service training and about 100 institutions will provide in-service training to about 5000 teachers against the minimum requirement of 20,000 teachers. The CIVE (named as Pandit Sunderlal Sharma Central Institute of Vocational Education) has been established in June-July 1993 at Bhopal. It was yet to take off and start planning for in-service and pre-service teacher training as envisaged in POA 1992.

Initiatives of Rohilkhand University

Realising the need and importance of in- and pre-service teacher training for vocational educators the Department of Education, Rohilkhand University took several steps to make the programme a reality. In the beginning, it was difficult to conceptualise a proper teacher training module which is entirely different from the existing one because it is expected that vocational teachers should possess appropriate academic and pedagogical qualifications coupled with industrial work-experience and sufficient vocational skill-based practical orientation and training. Thus, it requires

- i. Specific theoretical curriculum for a particular vocation;
- ii. practical knowledge of the specific vocation;
- iii. applied training,
- iv. pedagogical knowledge including teaching skills;
- v. Use and development of teaching materials

and educational aids;

- vi. examination and evaluation system;
- vii. linkages with employment sector/industry for on-the-job-training and proper placement.

The author had gone through indepth the educational systems followed at Federal Republic of Germany and United States of America, which are the pioneers in the areas of vocational education and teacher education. After indepth discussions with various renowned educationists at these two countries, a scheme was devised to suit Indian situations. A National Seminar of eminent experts of heterogeneous nature belonging to science, engineering and technology, humanities, social sciences, and education disciplines was organised at Bareilly in April 1992 to arrive at implementable structure of teachers training. The discussions focused around the following points :

- Desirability, feasibility and nature of the programme.
- Duration of the course.
- Identification of major areas for which vocational teacher training courses may be developed.
- Identification of sub areas of vocational courses related to the main occupational field/stream of the education and the titles of the papers that can be included under these courses.
- Types of courses — Foundation courses, Core courses, Applied courses, Electives, Practical training (linkage with Industry/employment sector), etc
- Suggestions for related textual and reference materials.

After indepth discussions, a strategy was finalised to examine vocational courses at + 2 level and identify the vocations to be taken up for curriculum development alongwith the required pedagogical components. The vocational courses are broadly classified into following four disciplines :

- (i) Business and Commerce Education.
- (ii) Home Economics Education
- (iii) Science and Technology Education.
- (iv) Agriculture Education.

Resource persons were identified to develop course contents in the above disciplines. After several discussions with experts across the country, the module for teacher training — B.Ed (Vocational) has emerged as follows:

MODULE FOR B.ED. (VOCATIONAL)

Course Duration — One Year

Compulsory Course

<i>Paper</i>	<i>Theory Work</i>	<i>Practical</i>	<i>OJT</i>
1. Foundations of Vocational Education.	40 L Hrs.	-	-
2. Psychology of Learning Teaching and Motivation for Vocational Education.	40 L Hrs.	-	-
3. Entrepreneurial Development	40 L Hrs.	-	Visits in Banks/Industries (2 weeks) practice teaching in sec. schools (24 LP)
4. Educational Technology in Vocational Education	40 L Hrs.	6 Micro/simulated lesson plan per optional	-
5. Evaluation and Measurement in Vocational Education	40 L Hrs.	-	-

Optional Course

6. Three papers from a family of vocation of a discipline

Total time allotted to these papers

<i>Theory</i>	<i>Practical</i>	<i>OJT</i>
150 L Hrs. (50/paper)	210 L Hrs (70/paper)	8 weeks (2-3 weeks/paper)

Out of five compulsory papers, four are devoted to pedagogical component of the course whereas, the "Entrepreneurial Development" paper aims—

- 1 To provide the student-teacher an understanding of the importance of entrepreneurship as an essential element for successfully tapping the opportunities to start self-employment in different vocations.
2. To provide student-teacher an understanding of attitudinal and behavioural pre-requisites for entrepreneurial development
3. To enable student-teacher to acquire skills for analysing and exploring the changing business environment.
4. To acquaint the student-teacher well and to provide him/her practical exposure about enterprise launching and developing and to provide practical exposure
5. To orient the student-teacher towards managerial skills in the fields of finance, human resources, production and marketing.

The course contents of each paper (foundation and optional courses) have been finalised after organising four-five workshops with subject experts and representatives from government agencies, NCERT, employment sector, etc. drawn from various parts of the country

The optional component envisages three papers from a family of vocation of a particular discipline. Efforts have been made to put three related papers into one family to justify the work load for a full-time teacher. In each discipline six or seven families of vocations are identified. For illustrations, the list of families of vocation and paper related to different disciplines are given in Appendix-I to IV.

The expert groups have discussed at length not only the course contents related to theory and practical components of each paper but have also given the details of the activities for On-the-Job Training and required reading materials and infrastructure

Role of Uttar Pradesh Government

In spite of severe resource crunch, the Government of Uttar Pradesh has enthusiastically come forward to start the teacher-training course, i.e., B.Ed. (Vocational). It is the first State in the country to take initiative for this endeavour. The Government has accorded the sanction of B.Ed. (Voc.) Course to begin with at the Rohilkhand University. It has also provided financial assistance for building, equipment, human resources and other infrastructure. This initiative of Uttar Pradesh Government is a welcome step to make the programme of vocationalisation of education a success. We have first to concentrate on the pre-service teacher training course

in the disciplines of Business & Commerce Education and Home Economics Education, keeping in view relatively better self and wage employment opportunities in these areas. The requirement of less infrastructure for these disciplines as compared to

science & technology education and agriculture education is another feature for giving priority to these courses. The time will assess the success achieved and objectives fulfilled as envisaged in the NPE 1986 and POA 1992.

APPENDIX-I

Home Economics Education

<i>Family of vocation</i>	<i>Papers</i>
Early Childhood Care & Management	<ol style="list-style-type: none"> 1. Child Care & Nutrition 2. Early Childhood Education & Management 3. Play Materials & Toy Making.
Food and Nutrition	<ol style="list-style-type: none"> 1. Nutrition & Dietetics 2. Catering and Canteen Management 3. Food Craft
Costume Designing	<ol style="list-style-type: none"> 1. Textile & Handicraft of India 2. Tailoring & Cutting 3. Commercial Clothing
Textile Technology	<ol style="list-style-type: none"> 1. Textile Designing 2. Textile Finishing and Dyeing 3. Textile & Handicrafts of India.
House Keeping	<ol style="list-style-type: none"> 1. Institutional House Keeping 2. Interior Decoration 3. Window Display and Exhibition Design
Health Care	<ol style="list-style-type: none"> 1. Beauty Culture 2. Health Care & Physical Fitness 3. Nutrition & Dietetics

APPENDIX-II

Business & Commerce Education

<i>Family of vocation</i>	<i>Papers</i>
Financial Group	<ol style="list-style-type: none"> 1. Banking 2. Insurance 3. Financial Institutions
Office Management & Secretarial Practice	<ol style="list-style-type: none"> 1. Office Management & Correspondence 2. Shorthand 3. Typewriting
Accounting, Auditing & Taxation	<ol style="list-style-type: none"> 1. Financial Accounting 2. Auditing 3. Costing & Taxation
Purchasing, Store-keeping & Salesmanship	<ol style="list-style-type: none"> 1. Purchasing 2. Storekeeping 3. Salesmanship
Entrepreneurial Development & Small Business Management	<ol style="list-style-type: none"> 1. Organisation and Management of Small Business 2. Operational Aspect of Small Business-I 3. Operational Aspect of Small Business-II
Cooperative Business	<ol style="list-style-type: none"> 1. Cooperation, Principles & Practice 2. Cooperative Development in India 3. Cooperative Accounting

Science & Technology Education

<i>Family of Vocation</i>	<i>Papers</i>
Mechanical Technology	<ol style="list-style-type: none"> 1. Automobile Maintenance 2. Turning, Welding & Fabrication Practice 3. Refrigerators & Air Conditioners Maintenance
Electrical Technology	<ol style="list-style-type: none"> 1. Electric Wiring & Contraction 2. Maintenance of Electrical Appliances & Motors 3. Electro & Electroless Plating
Electronic Technology	<ol style="list-style-type: none"> 1. Electronic Instrumentation 2. Radio, Television & V.C.R. Maintenance
Computer Technology	<ol style="list-style-type: none"> 1. Computer Hardware 2. Computer Software 3. Computer Applications (Standard Packages)
Rural Technology	<ol style="list-style-type: none"> 1. Maintenance of Diesel Engine & Farm Equipments 2. Non-Conventional Energy, Appliances & Maintenance 3. Rural Health, Sanitation & Water Supply 4. Construction & Maintenance of Low Cost Houses
Reprography & Photography	<ol style="list-style-type: none"> 1. Desk Top Publishing 2. Video & Still Photography 3. Printed Circuit Board Making
Chemical Technology	<ol style="list-style-type: none"> 1. Plastic & Rubber Products Technology 2. Paper Technology 3. Soap, Detergents & Cosmetics

APPENDIX-IV

Agriculture Education

<i>Family of Vocation</i>	<i>Papers</i>
Crop & Seed Production	<ol style="list-style-type: none"> 1. Crop Production & Management 2. Seed Production 3. Plant Protection & Agro-chemicals
*Horticulture	<ol style="list-style-type: none"> 1. Fruit Production 2. Vegetable Production 3. Condiments, Spices, Medical & Aromatic Plant Production 4. Commercial Flower Production 5. Mushroom Production 6. Plantation Crop Production
* Live-Stock & Poultry Production	<ol style="list-style-type: none"> 1. Dairying 2. Poultry 3. Animal Feed & Feed Processing 4. Meat Animals
* Applied Zoological Trades	<ol style="list-style-type: none"> 1. Fisheries 2. Apiculture 3. Sericulture 4. Lac Culture
Agri-Business & Farm Management	<ol style="list-style-type: none"> 1. Agri-Business 2. Farm Management 3. Farm Machinery & Maintenance

* Select any three papers

Gujarat Vidyapith Platinum Jubilee

Gujarat Vidyapith Mandal has resolved that *Amrit Mahotsav* (Platinum Jubilee) be celebrated for two years from October 1993 to October 1995. A variety of programmes to reinforce ideals of the Gujarat Vidyapith are envisaged during these two years. This was revealed by Prof. Ramlal Parikh, Vice-Chancellor, Gujarat Vidyapith while addressing the 40th convocation of the Vidyapith.

He said, "Goals of the Gujarat Vidyapith formulated under Gandhiji's directions are not the goals of an institution but these are aims of the national education system directed to accomplish the realisation of a non-violent society. This is even a world-wide programme. The entire system of Education in the Vidyapith comprises the salient components like knowledge of the essence of all religions for character-building and self-development; daily assembly prayer and community spinning for the realisation of truth and non-violence; mother-tongue as medium of instruction at all levels of education; imperative place of Rashtrabhasha Hindi, equal weightage to liberal and vocational education; training in productive crafts that are conducive to rural life, pledge to continuously put on Khadi, important place of social service at every stage and subject of education; priority to the needs of rural community while framing the curricula. Vidyapith had a singular privilege in having Gandhiji's direct guidance. Working against heavy odds, we are striving reso-

lutely to uphold life-style and education system of the Gujarat Vidyapith in consonance with Gandhiji's ideas."

Majority of the Gujarat Vidyapith graduates are engaged in rural reconstruction, social work, and social welfare activities as well as adult literacy and serving people through institutions of Nai Talim (Basic Education), Ashram Schools, Sarvodaya Community projects, rural institute and similar agencies.

Facilities of education, research and extension work through the media of mother-tongue have been developed upto Ph.D degree. Provision is also made to write Ph.D thesis in any modern Indian language of students' choice. As a result, seven Tamil-speaking students of Madurai University could study in Peace Research Centre of Vidyapith.

Gram Seva Mahavidyalayas at Sadra and Randheja impart undergraduate education through mother-tongue and provide productive craft/work and social service as integral components of education. Thus, Agriculture, Animal Husbandry, Ambar and Soap industry at Sadra and Home Science as well as Tailoring work at Mahila Gram Seva Mahavidyalaya at Randheja are integral components of the curricula.

Prof. Parikh referred to the following important events and programmes at the Vidyapith in the course of his address.

(1) During the last three years under the NSS camp programmes 14 camps were organised for all the students for eradication of illiteracy. As a result, 14,665 illiterates were imparted literacy. In collaboration with the Adult Education Resource Centre and over 600 voluntary organisations, a campaign to liberate 12 lakh illiterate persons was conducted. Literacy Campaign initiated by the Vidyapith has now grown into Total Literacy Campaign in the districts of Gujarat. District Literacy Committees (*Zilla Saksharta Samitis*) have now taken over the responsibility for this campaign.

(2) Under the auspices of Peace Research Centre, a three-day symposium of "Peace-messengers" of India, Pakistan and China was held with Prof. Johan Galtung as a Consultant. Mrs. Robin Ludwig, Political Adviser to the U.N. Security Council also participated. This colloquium recommended that an Asian Conference of peace agents institutions be organized. Recently, Mr. Boutros Ghali had sent a special message to the Peace Research Centre of Vidyapith on the World Peace Day. 20 students have completed M. Phil and 3 students have completed Ph.D degrees in the inter-disciplinary studies on Peace Research. One of them have completed his Ph.D thesis on a Comparative view of Gandhiji and Einstein.

(3) The Agricultural Extension Centre at village Randheja in Gandhinagar has imparted farm training to 40,587 farmers in new techniques of farming through direct demonstrations. One more such centre is started at village

Ambheti in tribal area of South Gujarat. Under 'Hunger Project' at the Gram Seva Kendra in village Sadra, Ambar spinning workshop for self-employment is functioning.

(4) In Indira Gandhi National Open University Study Centre at Gujarat Vidyapith, 364 students took terminal test on Food and Nutrition during 1993. As the course is conducted through Gujarati medium, considerable number of women from rural areas have joined the course with enthusiasm. Facility for study on rural development through Hindi is also available in this Centre.

(5) With a view to fulfilling needs of rural development projects, Co-operative Societies, Milk dairies etc., a two-year post-graduate training course in Rural Management is functioning at village Sadra, one of the rural campuses. A full-fledged Centre of Studies in Rural Management is functioning here with a Computer centre as well. There are also facilities for instrumentation Centre as well as research centre on Bio-gas.

(6) A three-year course in "Vyayam Visharad" (Bachelor of Physical Education) is instituted with 72 students studying for the three-year degree course. Facilities for these graduates to study postgraduate course of Master of Physical Education are also available.

(7) Under the Centre of Studies in Indian Languages & Culture, facilities for the study of various regional languages including Kannada, Malayalam, Tamil, Telugu and Marathi are available under one roof in co-operation with respective State Governments. Besides, the facility for Studies in Hindustani and

Sindhi are also available. Under the cultural exchange programmes, a drama in Kannada language, poem-recitals in Telugu and folk-dances as well as folk songs by the Punjabi artistes were performed.

(8) Placement of 247 students in various jobs was made through Student Counselling Centre.

(9) 3048 students including 1618 in primary and secondary and 1430 in higher education have been availing of the various educational facilities in Gujarat Vidyapith. Hundreds of young men and women as well as citizens have been acquiring knowledge and skills through short-term courses in Tribal Welfare, Panchayati Raj, Library Science, Agricultural Extension and Adult & Continuing Education. 2,56,182 students took the Hindi examination conducted by our Hindi Propagation Committee. Teachers give honorary services in 1,159 Centres of Hindi teaching.

(10) A Janki Devi Bajaj Nature Cure and Yoga Centre has been instituted in village Sadra at Panchayati Raj Centre. For this, a liberal amount of donation was given to Vidyapith in memory of Smt. Janki Devi Bajaj, by her son Shri Ramkrishna Bajaj. It is under active consideration to start a six-month training course in Nature Cure.

(11) A one-year post-graduate course in Computer Education through Gujarati and Hindi media has been instituted. Preparations are afoot to extend it to M.Sc. level. A text-book in Gujarati language on Computer Language 'C' prepared by Dr. Dilip Ahalpara has been published by the Vidyapith.

(12) Six students completed M.Phil & Ph.D studies in Buddhism. A group of persons residing in USA, and interested in promoting International Study Centre for Jaina Studies in the Gujarat Vidyapith have given an initial donation for institution in Jain Studies at M.Phil & Ph.D-levels. 8 students have been admitted to these courses this year.

(13) The years 1993-94 and 1994-95 are the years of 125th Birth anniversary of Mahatma Gandhi and Vinobha Bhave's Birth centenary. Moreover, 1995 is also the 100th Birth anniversary of Shri Morarjibhai, our Chancellor. Hence, these two years will be celebrated as Platinum Jubilee year by organizing various programmes for the promotion and development of Education and constructive programmes emerging from Gandhiji's ideas. In view of the 125th Birth anniversary of Gandhiji, the following programmes are contemplated :

— Social uplift of 125 villages through education.

— Publication of 125 small booklets for the neoliterate adults.

— Public reception of 125 graduates who have done very significant work in rural uplift.

— Growing 125 thousand trees by creating a new Narmada forest village at Sadra.

— Sale of Khadi worth Rs. 125 lakh through 125 khadi yatras.

— Teaching Hindi to 125 thousand new examinees.

— Training 125 thousand farmers in innovative techniques of farming.

— Teaching 125 thousand primary school drop-outs.

— To persuade 125 thousand girls to pledge not to marry before 21 years of age.

Traditional Sciences Congress

A five-day congress on traditional sciences was jointly organised by the Patriotic People's-oriented Science and Technology (PPST) Foundation, Madras and IIT, Bombay.

Welcoming the over 1,200 delegates, Dr. B.D. Nag, the IIT director, said he was happy that his institute was able to host such a path-breaking meeting between the modern sector and the traditional sectors of science and technology. He felt that such a dialogue was vitally required in these days of resource crunch and non-sustainable use of the environment.

Striking an ebullient note in his address to the congress, the president of the PPST warned the delegates that it would be like throwing the baby with the bathwater, if the country rejected traditions merely because they were "non-modern".

By that token, said Prof. Seshadri, we would have to reject the zero and the decimal system because it was invented by ancient Indians. Quoting a leading western mathematician, Prof. Seshadri said, "The Indian system of counting was the most successful intellectual innovation even made on this planet. It has been adopted universally, far more extensively than the letters of the Phoenician alphabet. It constitutes the nearest thing we have of a universal language, whenever the Indian numerical system met any other counting system it immediately replaced it."

Among the attractions of the congress Prof. Seshadri highlighted, were the application of Panini's classic treatise on

grammar, *Asthadhyaahee*, to machine translation and an exhibition of iron-smelting displayed by the agariya (fire-men) craftsmen of Bastar.

In her talk on the relevance of Gandhi, Ms Usha Mehta of the Gandhi Samarak Nidhi referred to Bapu as India's "first environmentalist", who displayed a rare combination of the saintly and the heroic. Decrying the recent attempts at besmirching the Mahatma's memory, she said Gandhi was not only a *rastrapita* (father of the nation) but also a *vishwapi* (father of the world), a holistic visionary whose teachings have a perennial relevance.

In his address, Prof. M.M. Sharma, Director of the Bombay University's Department of Chemical Technology said modern science can help to take to greater heights the intuitive insights attained by ancient Indian systems. "Whether it is a drug for asthma or *guggul*, the modern analytic instruments allow us to detect all the components just as we are able to do in *attar* (perfumes). We can also upgrade. Similarly, we have been able to derive very powerful stable pesticides from pyrethroids taken from traditional technologies."

The other major Indian contribution, said Prof. Sharma, is crop rotation which is highly relevant today. Quoting the Rigvedic idea, "let noble thoughts flow to us from all sides", Prof. Sharma said, "at the congress we must let all these noble thoughts which have stood the test of time... whether it was agriculture, ayurveda, surgery, metallurgy, textiles or even artificial insemination — combine them with modern techniques and come out with still better practices."

In-house R & D Conference

The Minister of State for Industrial Development, Mrs Krishna Sahi, has urged the industry to earmark adequate funds for research and development. The R&D Cess Act, which was mooted by the Government, she said, had not been received well by industry.

Delivering the valedictory address at the seventh National Conference on In-house R&D in Industry in New Delhi recently, Mrs Sahi said that industry should concentrate on technology absorption right from the early stages of technology acquisition. This alone would enable it to be technologically self-reliant instead of depending upon technology from abroad.

The Minister said that in the present context, it was imperative to have an extensive information base for proper choice of technologies from abroad as also those existing with us. For strengthening the technology information base, while some projects were already in operation, some others were in the pipeline, she said.

The industry had to shoulder the major responsibility of technology development and technology management. It was imperative that industrial enterprises establish their own in-house R&D units for developing cost-effective and quality conscious technologies. The Government on its part had extended various incentives for in-house R&D units which were available to enterprises both in the private and public sector. Financial institutions were also extending resource packages for technology upgradation, quality improvement and standardization of

products which could be utilized by industry.

The Minister said that with substantial contribution to national growth as also a 45% share in exports, the small scale sector had become a very important partner in the endeavour to give an impetus to the economy. However, she said, the technology base in this sector was very weak and needed to be strengthened to make the quality of the products globally competitive.

For improving the products local technology generation could be undertaken either through cooperative in-house R&D or by sponsored projects in collaboration with Government laboratories, IITs, universities and others.

"There are several problems of concern to our society for which we have to find solutions. Our scientists and technologists should interact effectively with industry in creating a scientific temperament seeking technological solutions to some of such problems". She stressed that a better standard of living for the teeming millions, which was the goal of the Government, was directly linked with "the pace of the technological revolutions that our country is on threshold of."

The conference recommended that greater thrust be given to R&D programmes in the area of fibre, new composites like metal, matrix, ceramic matrix composites and a range of advanced materials based on metals, ceramics, polymers, molecular materials and glasses.

It was felt that many of the country's scientists and engineers were not engaged in R&D activities. This must be increased substantially to help the country become a global player.

It was recommended that the industry should adopt systematic mid-term career training programmes for their R&D personnel, especially in advance scientific and emerging areas of relevance for industrial development.

For making industry globally competitive, it said, R&D activities should be intensified in areas where India had locational advantage.

Anna Instt. of Management Convocation

The Tamil Nadu Education Minister, Mr. K. Ponnuswamy, emphasised the need to frame the curricula of management education so that it would cover all fields of the study. The curricula should be wide open and flexible. The idea of management education was to identify the role and the person, and matching them. The Minister was distributing postgraduate diploma certificates in management to students at the convocation of the Anna Institute of Management (AIM) in Madras recently.

"Developing the person in the role, developing role for the person, developing compatibility between them, developing self-renewing capacity, realisation of inherent potential coping with environment forces, etc. are some of the aspects of management education", he said.

In the past, he said, the main task of managers was to extract work from others. But now managers had to have skills to become a multifaceted personality. The managers had to be highly responsive to the present-day demands.

"Further, social, political, economic and technological situations are undergoing a drastic

change and the managers need to pick up skills for appropriate links between their organisation and the ever-changing environment," he added.

Mr. Ponnuswamy said mushrooming of management schools every year highlighted the need to train more persons in management techniques.

The demand for international certificates from the International Standards Organisation by every corporate unit was another indicator of the need of the Indian corporate managers of international competition for gearing themselves up

Prof. P. Ramasamy, director, Crystal Growth Centre, Anna University, who opened the diploma programme in management and computers for 1993-94, complimented the institute for its ability to attract funds from sources other than the Government.

Mr. A.S. Padmanabhan, director, AIM, in his welcome address, said the institute had offered consultancy services to agencies such as the World Bank. Mr. T.A. Sivasubramaniam, programme director, said the number of seats for the diploma was increased by 10.

Population Education and Literacy Campaigns

The Department of Adult, Continuing Education and Extension, University of Delhi and the Indian Adult Education Association (IAEA) jointly organised a Seminar on "Linking Population Education with Literacy Campaigns" in Delhi recently.

Inaugurating the Seminar, Prof. S.K. Pal, Dean Faculty of Social Sciences, Delhi University,

said that India had made significant achievements in education, and economic and social development but all had been nullified because of the rapid increase in the population. He said that effective measures were needed to control the population growth rate so as to give better opportunities to the masses to improve their quality of life. The formal institutions, he said, had a significant role in this regard and they should actively associate themselves with the programme.

In his keynote address, Shri J.L. Sachdeva, Director, IAEA said that the basic aim of population education programme was to orient the thinking of the people in such a way that small family norm could become a part of their way of life. Under it the rational and responsible attitude had to be developed, he said.

Shri Sachdeva emphasised that in the environment building programme, emphasis should be laid both on literacy and population education. He also stressed the need to provide special training/orientation in population education to various levels of functionaries. He said that there was an urgent need to re-orient the writers of the neo-literate material so that the message of small family norms was effectively conveyed.

Dr. P.K. Bhargava, Fellow, National Institute of Adult Education (NIAE) presented a demographic scenario of 1991 census and discussed the current status of population programme in the country and how it could be linked with literacy campaigns.

Shri R.S. Mathur, Additional Director, Directorate of Adult Education, said that illiteracy, poverty and population explosion were three inseparable prob-

lems and to achieve the results, all the three had to be tackled simultaneously. He said that poverty had to be reduced to improve the quality of life which in turn would lead to control of population. He said that the concept of control of population was a negative one and the new concept should be population stabilisation.

Shri Mathur said that population education among others should include safe motherhood, responsible parenthood and reducing the span of fertility. Under safe motherhood, pre-natal and post-natal care should be provided. The child survival rate had to be increased and immunization programme had to be taken on a wide scale. On the responsible parenthood, the gender bias message had to be conveyed. To achieve stabilisation in population the need for delaying marriages had to be stressed.

He said right age of marriage, spacing between children had to be emphasised so as to achieve the objective of healthy growth of babies. Integration between literacy and population education could be strengthened by raising the level of awareness of the participants, he added.

Shri Rajesh, Project Officer of the Adult Education Department of the University in his welcome address, outlined the activities of the Department in linking population education with literacy campaigns. He said that more emphasis should be laid on girls & women's education so as to check the population growth rate.

The following recommendations were made at the Seminar :

1. Special training/orientation to population education functionaries may be provided at

all levels and resource persons be involved in the programme of imparting population education.

2. It was noted that in many TLC districts the third primer was not covered which resulted in partial coverage of the population education message. It was, therefore, recommended that population education message should be covered in the second primer or alternatively the district should not be declared totally literate unless the third primer was completed.

3. In post literacy material special emphasis should be given to the population education.

4. The message of small family norm should be covered at the environment building stage of the literacy campaign.

5. To get better results the Seminar recommended that women institutions, both formal and non-formal, should be actively involved in linking population education with literacy programme.

6. Population education's scope should be extended to include measures like AIDS, drug addiction, alcoholism, etc.

7. Special incentives be given to college students to effectively involve them in imparting literacy and population education.

Over 30 participants from the university, colleges, NGOs and students participated in the seminar.

Company Secretaries' Foundation Course

The Institute of Company Secretaries of India (ICSI), taking a cue from the Institute of Chartered Accountants of India, has introduced a foundation course for '10 plus 2' or its equivalent

students. The course which replaces the previous 'preliminary' examination, was introduced in September 1993.

The foundation course is of eight months duration and students after completing the course have to pass the foundation exam which is held twice a year in June and December. Subsequently, students may directly enrol for the intermediate course of Company Secretaryship thus enabling a student to do his degree simultaneously. The main objectives of the foundation course are : (i) To offer an opportunity to students passing the 'plus 2' examinations, the stage at which they decide their career, to have wider options in career-building; and (ii) To attract talented students to the profession at the right age, having the requisite aptitude and to plan their future at the right age.

Graduates will, however, be exempted from writing the foundation exam which consists of four papers : Business Communication, Business Law and Management, Accountancy and Economics & Statics.

CD-ROM Way to Information

Bombay Science Librarians' Association (BOSLA), in collaboration with Universal Subscription Agency, recently organised a Demonstration-Cum-Seminar on 'CD-ROM Way to Information' at the Tata Institute of Fundamental Research, Bombay.

Inaugurating the seminar Prof. Virendra Singh, Director of TIFR, highlighted the facilities being provided by modern information technology to the research workers and the challenges it was throwing to library managers.

The discussion at the seminar was focused on (i) How to reduce the users waiting time for using CD-ROM databases; (ii) Making CD-ROM based services available to engineering colleges, R and D Units, industries and other research organisations who cannot afford to have such a high cost technology; and (iii) Arranging CD-ROM users group meets in order to discuss various problems from procuring CD-ROMs to providing services based on them and maintenance of CD-ROM drives etc.

The presentation in the first session of the seminar related to sharing of experience by the librarians in using the CD-ROMs for giving information service to readers. The problems relating to hardware, software and management of the technology were also discussed in this session.

In the second session, the readers who used the CD-ROMs for their research, highlighted the advantages of using them for retrieval of information.

Shri Seetharaman of Universal Subscription Agency presented Vendor's side as one of the promoters of CD-ROM technology in India. He mentioned about their assistance in procurement of CD-ROM databases. He also briefed the audience about new services that Universal Subscription Agency was going to introduce in the city in addition to subscription agency.

Dr. S.R. Ganpule, Chairman, BOSLA, offered concluding remarks and vote of thanks.

Narmadavan Sadbhavana Special Camp

A 15-day university level Narmada Sadbhavana Special Camp was organised by the Gujarat Vidyapith NSS Coordination Cell for 850 NSS volun-

teers and teachers. The Camp was inaugurated by Shri Chimanbhai Patel, Chief Minister of Gujarat.

The objectives of this camp were to educate the NSS volunteers on the varied facets of the Sardar Sarovar Scheme and develop NSS Silver Jubilee Year Celebration action plan. The camp activities included prabhat pheri, flag hoisting, campus clearing, shramdan-manual work projects, campers rousing nearby villages for extension activities, popularising use of unconventional sources energy and low-cost equipments and aids like solar cooker, bio-gas, water seal latrine, smokeless chulha, singing of community songs, sadbhavana and communal harmony activities, lectures and discussions on the themes of national importance and NSS Silver Jubilee Year Celebration action plan, health check-up camps, cultural meets and sports.

The following achievements are reported to have been made :

— Work of land reclamation, earth digging, filling and Narmada Van plantation preparations completed worth Rs. 1.25 lac.

— 5 villages located in the vicinity of 2-3 kms. from the camp site were covered through the extension work by the volunteers. 5 mini social surveys on use of low-cost sanitation and unconventional sources of energy, population education, literacy and health problems were undertaken.

— 5 one day village level sub-camps were held in Motipura, Sadara, Alawa, Kalyanpura to promote spirit of Sadbhavana, organised youth activities, literacy and communal harmony and peace.

— Peace and Sadbhavana rally from Sadara to Gandhinagar was organised.

— 1 eye check-up camp held. 35 cases were thoroughly examined 6 severely affected cases were successfully operated upon at Ahmedabad with the assistance of Lions Club, Ahmedabad Central.

— 5000 pits were dug at the Narmdavan plot.

— On an average, 11 working hours per day per camper in all 1,19,000 man hours were put in for completing the set targets.

— Maximum number of student volunteers were involved in the planning and management of camps projects

Books Gift for Adyar Library

The American Institute of Indian Studies (AIIS), a consortium of more than 45 leading universities, recently presented 1,000 books to Adyar Library and Research Centre at the Theosophical Society, Madras.

The books, written by American scholars on various aspects of India and Indian way of life, have been presented with the help of a grant by the Ford Foundation.

Handing over the choicest collection to Mrs. Radha Burnier, international President, Theosophical Society, Dr. Pradeep Mehendiratta, vice-president and Director-General, AIIS said the institute took pride in presenting the books to Adyar Library, which offered research facilities to scholars from all over the world. The AIIS was established in 1961 in the USA by a group of scholars involved in programmes of Indian studies. The AIIS, he said, had a centre for Art and Archaeology at Varanasi, which

housed an archives of 115,000 photographs and 15,000 slides in the field of Indian Art.

In her acceptance speech, Mrs. Burnier conveyed her warm appreciation of the 'gracious gift' from AIIS. The Adyar Library, she said, had been appreciated not only for its high quality collection of books but for having a rare treasure of 18,600 manuscripts and several other books. The library, founded by Col. H.S. Olcott, president and founder of the Theosophical Society, was now over hundred years old. It was run on private donation especially from the members of the Theosophical Society.

Sant Namdev Chair

A Sant Namdev Chair is proposed be set up at Guru Nanak Dev University, Amritsar. This announcement was made by Mr Beant Singh, Chief Minister of Punjab while speaking at the state-level 723rd birth anniversary celebrations of Sant Namdev in Jalandhar recently.

Paying tributes to Sant Namdev, he said his teachings had been included in Guru

Granth Sahib. The Sant had given the message of universal brotherhood.

All India Commerce Conference

An All India Commerce Conference will be held on December 29-31, 1993 at Kurukshetra, under the auspices of the Department of Commerce, Kurukshetra University. Prof. R.P. Hooda, Chairman, Department of Commerce, Kurukshetra University will act as Conference Secretary.

On this occasion a seminar on Globalization of the Indian Economy will also be organised. The other topics proposed to be discussed in the various technical sessions include (i) Stock Market Reforms; (ii) Business Dimensions of Rural Sector; (iii) Exit Policy and its Implications; and (iv) Management of Infrastructure.

Further details can be had from Professor M. Saeed, Secretary, Indian Commerce Association, Head, Department of Commerce, Jamia Millia Islamia Central University, New Delhi - 110025.

News from Agricultural Universities

Five Conundrums of Development

"The International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) has been called upon to do its part not only to feed, but also to generate new income streams for the 90 million additional people born each year in the developing countries. The challenge for agricultural research has thus become more complicated than the 'food first' imperatives of the 60s and 70s that gave rise to the Green Revo-

lution," said Dr. James G. Ryan, Director-General of ICRISAT in New Delhi recently. Dr. Ryan said the complexity of these new challenges required greater resources for research. 'And the people who live in the developing world deserve greater commitment on the part of governments, donors and scientists.'

The five related problems of food production, malnutrition,

poverty, population growth, and the environment are more acute now than they were 20 years ago when ICRISAT was founded. 'But today, concern about the environment has so pre-occupied the world community that it seems to have forgotten the other four elements,' he said.

Describing them as five conundrums of development, he brought out the nexus between them. 'Poverty limits the opportunities for protecting and enhancing the environment because poor people have few options but to exploit the natural resource base in order to attain food security, and sometimes even to survive', he said.

Poverty also hinders efforts to manage population growth because for poor people children represent additional source of income. The way forward is through agricultural and economic development aimed at poverty alleviation. New technologies must therefore be found to improve agriculture, he said.

The link between higher productivity in agriculture and general economic growth is direct and real. A more productive agricultural sector also means more food at lower prices. These lower prices facilitate the complex interactions that promote economic growth. 'The real income of the work force increases, especially where food accounts for a large part of household budgets, as it does in the developing countries. A portion of this additional income is spent on non-food products, stimulating further rounds of demand and growth. A part of it is also saved and re-invested, either in people or in physical capital, thus enabling more growth in the future, said Dr. Ryan.

Research to generate farm technologies that increased pro-

ductivity and incomes while conserving natural resources was thus central to the whole development process. The international agricultural research centres such as ICRISAT, contributed both directly and indirectly to reducing poverty, protecting the environment and slowing population growth, he said.

Increased incomes will lessen the pressure on natural resources. The productivity gains associated with these increased incomes will reduce the need to farm the fragile lands and forest margins. It will also open the way to lower rates of population growth. More secure livelihoods and access to education and health services, along with increasing opportunities for women will lead to lower reproduction rates and slower population growth, according to him.

'Strongly supported scientific research is fundamental to the achievement of food security in the developing world. For at least the next three decades, about 90 million people—that is about the same as the combined populations of Canada, France and Sweden—will be added each year to the population of the developing countries. To meet these additional food demands will require not only production of greater quantities of food, but also doing so in a manner that enhances the income of the poor,' said Dr. Ryan.

CIFE Convocation

Shri Ramraoji Adik, Minister for Finance, Planning and Law & Judiciary, Govt. of Maharashtra delivered the convocation address at the Central Institute of Fisheries Education (Deemed University), Versova, Bombay. Speaking on the occasion, the Minister exhorted the recipients of the degrees and diploma to dedicate themselves to the cause

of fisheries sector which was a very important segment of our national economy. 'India presently produces about 4.25 million tonnes (mt) of fish of which about 2.50 mt comes from marine and 1.75 mt comes from Inland fisheries. Scientific study shows a potential production of about 7 million tonnes of fish by the turn of this century. Such production would come largely through development of aquaculture on scientific lines, and also by utilising the lesser or marginally exploited resources of the deep sea. Besides credit and policy support, a major need will be qualified and trained manpower to plan, execute and manage different developmental projects and programmes. Thus, fisheries education and training of manpower has to play a key role in ushering in the era of blue revolution', the Minister said and called upon the private sector fisheries industries to take full advantage of the innovative fish production and processing technologies developed by this young University, and promote production and trade in various fisheries commodities. The current foreign exchange earning of about 1800 crores of rupees was poised to leap further to over Rs. 2500 crores in the next few years. All round growth of fisheries required substantial R & D funding and it was very important that industries institute funded projects with the CIFE to help them solve various fisheries problem; Mr. Adik added.

Dr. V.L. Chopra, the Director General, India Council of Agricultural Research (ICAR) and Secretary, Department of Agriculture Research and Education (DARE), New Delhi, in his address emphasised the urgent need for developing a strong base of technically trained manpower in fisheries. Dr. Chopra, stressed on the various problems confronting fisheries research and

development which could be successfully tackled only through developing a strong base of trained manpower. However, it was necessary to standardise education and training in fisheries, and prioritise the areas of thrust to meet the demands of the industry, he added. There should be optimum infrastructure in terms of fish farms, laboratories and vessels for courses at different levels.

Prof. Y. Sreekrishna, the Director of the institute in his welcome address, said that the institute was playing a key role in training state fisheries officers and students at Master's level and shaping up fisheries education system in India. Through its postgraduate courses the CIFE had already trained over 3400 students including 93 foreign candidates. A wealth of scientific information on fisheries science & technologies had been documented in the 800 dissertations and about 15 seminar volumes prepared by the trainees. The CIFE had made commendable contributions to on-farm training to the students and fish farmers through various short term training programmes on freshwater and brackishwater fish and prawn seed production and culture. Several orientation courses had been organised for the benefit of state fisheries officers. Prof. Sreekrishna further stated that the Deemed University's postgraduates were in great demand in both public institutions and in the private sector farms and processing plants. The laboratories of the university were being equipped further with modern research facilities which are very vital to student's research and demonstration of basic techniques in demanding areas such as fish genetic engineering, feed formulation and disease diagnosis and control. The fish and prawn hatchery techniques de-

veloped by the institute were very popular in the country. He made particular mention of the role played by this institute in the development and popularisation of the technology of freshwater prawn seed production through concerted trials in the laboratory and farms and regular training programmes.

Dr. M. Devraj, the Principal Scientist, in his report, mentioned that the institute had so far produced 3514 postgraduates in fish-

eries science through its various certificate, diploma and degree programmes since its establishment in the year 1961. Currently, there were about 200 postgraduate candidates on the rolls undergoing various programmes including Ph.D., he said.

In all 150 candidates received their M.Sc. Degree or D.F.Sc. Diploma in various branches of Fisheries Science at the convocation.

News from UGC

Countrywide Classroom Programme

Between 22nd December to 28th December, 1993 the following schedule of telecast on higher education through INSAT-ID under the auspices of the University Grants Commission will be observed. The programme is presented in two sets of one hour duration each every day from 1.00 p.m. to 2.00 p.m. and 4.00 p.m. to 5.00 p.m. The programme is available on the TV Network throughout the country.

1st Transmission

1.00 p.m. to 2.00 p.m.

22.12.93

"Career Counselling : Engineering"

"Blood Donation"

"The Fountain-head of Freedom Fighters of Andhra Pradesh — Garimella"

23.12.93

"Magmatic Residues and Knowledge of Volcanoes"

"English Romantic Poetry-III"

24.12.93

"Ecology of River Ganga-II"

"Religion and Society in

South India"

"Rights and Wrongs — Conscience Development"

25.12.93

"Louvre Museum"

"Question Forum"

"The Week Ahead"

26.12.93

No Telecast

27.12.93

"Exotic Nuclei"

"Chilli"

"Resource Scheduling-I Hungarian Method"

28.12.93

"The Wonder World of Alloys : Non-Ferrous"

"Deaf not Mute : A Change in Perspective"

"Return to Life"

IInd Transmission

4.00 p.m. to 5.00 p.m.

22.12.93

"National Institute for Foundry and Forge Technology"

"Indian Historiography-II Nationalist and other Schools"

"Safety from Electrical Shock"	<u>25.12.93</u>
<u>23.12.93</u>	No Telecast
"Wood Polymers"	<u>26.12.93</u>
"Basics of Library Science"	No Telecast
"The Working Children of Kashmir"	<u>27.12.93</u>
<u>24.12.93</u>	"Forests are Dying"
"Louvre Museum"	"Group Dynamics in Rural Marketing"
"Question Forum"	"Yehi Hai Right Choice"
"The Week Ahead"	<u>28.12.93</u>
	No Telecast

News from Abroad

IIEP Training Programme 1994/95

The International Institute for Educational Planning (IIEP) proposes to organise the XXXth Annual Training Programme in Educational Planning and Administration from 1 September 1994 to 31 May 1995.

The IIEP Annual Training Programme addresses itself to practising educational planners and administrators, as well as to those who have (or will have) training responsibilities in related fields. The programme is action-oriented and designed to improve the technical skills of participants.

The objective of the programme is to prepare participants for the important tasks of analysis, preparation, implementation and evaluation of policies and plans for the development of their national education systems.

The programme reflects the main experiences and developments in educational planning and administration in various countries, and its content is based in particular on research work conducted by the IIEP.

The training programme comprises two phases :

Phase 1 (1-30 September 1994) : in-country individual work based on training materials sent by IIEP.

Phase 2 (from 1 October 1994 to 31 May 1995) : intensive training at the IIEP Headquarters in Paris.

Further details may be obtained from the Training Unit, International Institute for Educational Planning, 7-9, rue Eugene Delacroix, 75116 Paris.

Admission to French Universities

Indian nationals seeking admission into French Universities for the academic year 1994-95 at the undergraduate level (first cycle), must undergo pre-inscription formalities (provisional enrolment). Pre-inscription forms are available from 1st December 1993 to 15th January 1994 at the : C.E.D.U.S.T. French Center for Documentation on Universities, Science and Technology, Embassy of France, 2, Aurangzeb Road, New Delhi - 110 011.

Candidates seeking admission into the first cycle will have to submit the completed forms by

15th January and undergo a French language test on Tuesday 8th February 1994. For candidates from Delhi, this test will be held at the C.E.D.E.F.S.I. (Center for Development of French Studies in India—same address as above). For those outside Delhi, it will be held at the Alliance Francaise nearest to their place of residence.

Candidates residing in Delhi are requested to collect the forms from C.E.D.U.S.T., while those from outside Delhi are required to make a written request at this Office accompanied by a brief bio-data. Pre-inscription forms will be mailed to them by Registered Post.

The following important points are also notified for the information of all concerned :

For admission into the first cycle of a French university, it is preferable for the candidate to have a Bachelor's Degree. However a candidate with a "10 + 2" may appear for the entrance examination. The university to which he/she applies will decide upon the equivalence to be granted. Any other examination which makes a candidate eligible for university studies in his/her own country is also accepted for the purpose of enrolment.

This procedure does not apply for Engineering studies. Those interested in enrolling themselves for Engineering are required to write directly to the French institution of their choice.

No scholarships are offered at the undergraduate level of studies. Candidates have to meet their own expenses (tuition fee, living expenses, travel, etc.) in foreign currency (roughly 40,000 French Francs per year).

This procedure is not applicable to candidates with a French "Baccalauréat".

BOOK REVIEW

An Important Contribution

Virginius Xaxa*

Lachman M. Khubchandani. Tribal Identity : Language and Communication Perspective. Shimla, Indian Institute of Advanced Study, 1992. Rs. 150/-.

Isolation in which majority of tribes in India lived was broken with the penetration of the British administration. This adversely affected the tribal society resulting in series of revolts and rebellions. The British therefore introduced special administrative set up in the tribal areas—known more popularly as the backward areas in the earlier administrative parlance. Subsequently, the term backward was dropped and replaced by the excluded and partially excluded areas. Rules and regulations meant for the general population were not usually applicable in these areas. In independent India such provision was still thought relevant for the tribal people. Hence some provisions were made in the Constitution in this regard. At the same time the Constitution was committed to promote the socio-economic development of the tribal people. Accordingly various measures were adopted by the successive governments. Not only have these measures unleashed the process of integration of the tribes with the larger society on a faster and larger scale than before but have also brought about changes of un-

precedented nature and scale in the tribal society. Social scientists have therefore been invariably drawn to study these. Flood of literature that has cropped up on tribes in the recent years clearly reflects this. Bulk of these studies however show more concern with socio-economic and political problems and less with the cultural aspects. Even when cultural aspects have been studied, language and speech communication have not been given adequate attention. The study under review fills this void in the literature and is therefore an important contribution to tribal studies.

The study examines the aspects of continuity and change in the tribal society with reference to socio-cultural aspects. It analyses the ways tribes have been responding to changes in general and modernisation process in particular that have set in the post-independence period of national reconstruction. And this has been done with reference to languages spoken by the tribals. Questions that the study raises are : How have tribes been responding to their spatial distribution in relation to non-tribal society? How have modernization and modernisation pursuits affected the tribals? Have these helped to maintain their distinct

cultural identity or integrated them into the dominant culture of the region? What are their attitudes towards acquiring contact language for communication at different levels such as intra-tribal, inter-tribal and tribal-non-tribal? Answers to questions such as these are drawn primarily from data available in census enumeration between 1961-1981. This is supplemented by micro-level field investigation by tribal research institutes in the country.

The book is divided into eight chapters. The first chapter outlines the broad social settings in which tribes have been interacting with the non-tribal world. This then serves as the background setting for framing the objectives of the present study. An important objective is to study the responses of the tribes to their spatial distribution and modernisation process. Hence the chapter two provides a profile of spatial distribution and levels of modernisation (in terms of urbanisation and literacy) of the tribes in different regions. Keeping in mind the geographical inhabitation, the book divides the tribes into five regions. These are north-east, centre-east, centre-west, south and north. The distribution of the tribals vis-a-vis non-tribals in the five regions has been far from even. Thus, north-east and south with a population of about six million each differed markedly from each other in respect of such distribution. Whereas tribes form majority in the north-east, this was not so in the south. Rather tribes formed small minority in the region. As against this, centre-east and centre-west to-

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gether (centre-east 14.6 million : centre-west 26 million) had a population of 40.6 million but in both the regions the tribes formed the minority, their size varying from 6 to 23 per cent. The same was the case in north where the tribal population was restricted to merely half a million. Even in respect of urbanisation and literacy despite variation across the regions, broad pattern region-wise was discernable. Thus, tribes in the north-east and south barring some exceptions displayed greater urbanisation vis-a-vis the other regions. And so was the pattern in respect of education.

Besides being dispersed, tribes are also heterogeneous. This aspect has been taken up for discussion in the third chapter. The Constitution lists as many as over 550 tribal groups in India. Of these about 70 live in the north-east, 90 in centre-east, 85 in centre-west and over 100 in south. Relatively a fewer groups live in north. These groups stand differentiated in terms of language, size and other features. There are tribal groups with a population of 1 million and more and groups with a population of 100 thousand and less. Whereas groups falling in the first category are few and in the second large, a substantial size fall in between the two categories. The small tribal groups generally live within the boundary of one single state but those with large population are usually scattered over more than one state. Further, the small tribal groups show better literacy rate than the more populous ones. In fact, among groups with a population of 1 million and more, the literacy ranged from 0.3 to 20 per cent.

Whereas the chapter three

discusses heterogeneity in terms of size of population, the fourth chapter discusses the problem in terms of language. Tribal languages like the other Indian languages fall broadly into four families — Austric, Tibeto-Burman, Dravidian and Indo-Aryan. Whereas the Austric speaking population is entirely tribal, of the Tibeto-Burman speaking population nearly 80 per cent is tribal. In contrast tribal population speaking the Dravidian and Indo-Aryan languages form tiny minority of the total respective population. Tribals are identified with a distinct languages of their own but the number of tribals associated with the tribal languages was estimated at 22.3 million according to 1981 census. The corresponding figure was estimated at 18.4 million in 1971 census and 14.7 million in 1961 census. Though these figures show increase in absolute number, the proportion of population speaking tribal languages has shown steady decline through the years. That is, the percentage of population maintaining their languages as mark of identity has declined from 49 per cent in 1971 to 42 per cent in 1981. Conversely, the ratio of non-mother tongue claims has gone up from 51 per cent in 1971 to 58 in 1981. What this shows is that a large number tend to switch over to the surrounding non-tribal language as their mother tongue of course, of the population claiming non-tribal language as mother tongue, 12 per cent speak tribal vernacular (certain hybrid variety) and not the regional language. The shift to non-tribal language has however not been even among the tribes, states or regions. The pressure of non-tribal languages has been more marked in south, centre-west and north than say in centre-east and north-east. In

north-east, the number of people speaking tribal language is larger than its actual strength. Further the language retaining capacity in the region generally exceeds over 30 per cent of the respective population. As against this the centre-east has shown retaining capacity ranging between 50-80 per cent. Other regions in contrast show assimilatory trend or prominent features of assimilation.

In addition to feature of language maintenance and language shift, tribals display yet another feature viz. bilingualism. This subject is discussed in chapter five. Bilingualism is higher among tribes than the non-tribals. Intensity however varies from one tribe to another and from one state to another. North-east and centre-east for example display greater bilingualism than the other regions. Thus bilingualism claims ranged between 28-40 per cent in the north-east and 20-30 per cent in the centre-east but such figure is less than 20 per cent in the south and less than 13 in the centre-west. What is even more interesting is that bilingualism is not opposed to low literacy. Thus, with 4.4 per cent literacy, bilingualism claims among tribals in Andhra Pradesh is 19.9 per cent; the claim is 29.6 per cent with 6.6 per cent literacy in West Bengal and 32.7 per cent with 10.0 per cent literacy in Tripura. Low claims of bilingualism is either related to pressure of linguistic assimilation or relative isolation. The most prominent component of tribal bilingualism is the regional language but local creolized language is not ruled out in some regions.

After having discussed the salient features of speech communication the author raises the

question of tribal identity in chapter six. The issue is examined in the light of mother tongue and bilingualism claims returned in census enumeration. One of the ways in which tribes display their distinct identity is by returning their ancestral language as mother tongue in successive census enumeration. Now the language scenario among tribals is one of decline of mother tongue claims of the tribal languages and increase in non mother tongue claims of tribal languages especially the regional languages. The scenario has been however very uneven among the tribals. Whereas some tribes or regions have shown assimilatory trend or features of assimilation others have been asserting their identity as being distinct from others by retaining their language. Those displaying shift of language show anxiety to enhance their prestige and status by identifying with the dominant language. In contrast those asserting identity do so because of feeling of superiority or hostility against the neighbouring non-tribal group. Besides the above two patterns tribals also show great openness for variation of language. Thus tribes belonging to the Austric and Dravidian groups appear to be at peace with creolized vernacular of the Indo-Aryan origin in Chotanagpur area. Such pattern is also visible in other parts and often one notices a strong sense of regional identity on this count.

In view of the concern shown above what assumes crucial importance in language analysis is the geography of language and not the study of isolated speech group. The chapter seven gives a brief resume of socio-linguistic characteristics of tribal areas focusing particular attention on

development taking place in the central belt and north-east region. Lastly the chapter eight looks into the group dynamics of tribes in historical perspective.

Studies on tribal language are sparse. Those are that hardly deal with speech or communication. In this sense the present study is a departure from studies in vogue on tribal language. Raising issues of central importance to the question of tribal identity, the study highlights the emerging patterns that are not only of academic interest but also social and political significance. Two factors that have affected tribal life very significantly are numerical strength of tribes vis a vis non-tribals and modernisation process among the tribes. Tribal languages have therefore been invariably affected and tribals' responses have been varying. The scenario has been either one of assertion of tribal identity among some tribes or regions or erosion of identity among others or combination of assertion and blending among still others. While this may be the linguistic scenario, analysis of phenomenon such as tribal identity cannot in my opinion be restricted to language alone. Rather a number of variables are linked with the question of identity and it is the combination and permutation of these that account for different layers of tribal identity. Whereas language is important variable, analysis on language alone prompts one to such conclusion as erosion of tribal identity among large number of tribes in India. One is therefore invariably drawn to know as to what identity the tribes assume in view of the assimilatory trend. If they still maintain identity as distinct from others, how do they maintain so? Problems such as

these could not be ignored in any meaningful discussion of tribal identity. Further as the author points out there are positive and negative components of tribal identity. And whereas positive components are visible where tribes form majority and absent where they do not, in multi-plural society negative components assume even greater importance and gives boost to articulation of positive components. Indeed even where tribes form majority, for example, north-east sharpness in identity articulation invariably stems from tribal-non-tribal relations. Thus negative components have been more vital in identity articulation than forces within the tribal society. This shows that demography *per se* is not as important as the access and control over the resources of various kinds between tribes and non-tribes. There is another kind of general problem one encounters as one goes through the book. In the wake of discussion on language and identity the author comes out with very many interesting observations and trends. However little effort has been made to explain them. This becomes more obvious when unusual trends are highlighted. Thus one wonders as to why the Kharia tribe displays decline in language retention rate despite increase in Kharia speaking population. Why the Bodos in Assam have shown sharp increase in language retention rate in the recent years? Why there has been decline of Bhumij language speakers but increase in number of the Bhumij tribe. Why there has been shift in mother tongue declaration from one language to another in successive censuses especially in respect of the Kui and Banjari. Trends such as these invariably raise readers' curiosity.

One is hardly sure whether the general observation like the social and political climate is applicable in specific situations such as these. Not only that but at times the general observation becomes intriguing. It has been consistently maintained in the study that the south displays a high degree of assimilatory trend with the dominant culture of the region. This is clearly reflected in the attitude towards language for a very high percentage of tribal population of this region claims non-tribal language as mother tongue (p. 48). Yet when one takes the case of bilingualism, the low rate of bilingualism in the region especially Kerala and Tamil Nadu is attributed to relative isolation of tribal from the non-tribal population (p. 54). In a work rich in quantitative and qualitative data, probability of some error creeping in could not be ruled out. Such errors however are fewer. It is not possible to point out all but it would not be out of place to mention the more general ones. Contrary to what is stated the Garo speakers form majority in one district (now divided into two) and not in four districts (p. 91). Again to say that 72 per cent of Rabha speaking population reside in Meghalaya is factually wrong. The study seems to rely much on census data. One would have expected a note on how language in general and tribal language in particular has figured in successive census enumerations. This becomes pertinent as a great deal of prejudices and biases prevail against the tribes and tribal languages at the regional level. Such attitudes colour much the way tribes and their languages are formulated and enumerated.

These are minor detractions in what is otherwise an important contribution to tribal studies. The problematique studies has so far remained unexplored and issues raised are considerable aca-

demic, administrative and policy significance. The ethnographic material is rich and presentation lucid and interesting. Researches, administrators and planners will find the book handy and useful.

UNIVERSITY NEWS

invites you to contribute to the Special Number it proposes to bring out on the occasion of the

11th New Delhi World Book Fair

being held on 5-13 February 1994.

The themes chosen for the special issue are :

i) My Favourite Reading

You may like to discuss any outstanding book or books that you may have read during the last three years and share the thrill with our readers; or, you may also discuss some outstanding author whose writings have inspired you and have carved a niche of their own in your mindscape.

ii) Society Without Books ?

Can we really visualise a society without books ? Books have such a profound influence on our total make up that despite all the technological innovations and media onslaughts, the book is likely to hold its own for all times. The various sub-themes are :

- a) Reading and Thinking
- b) Library and Learning
- c) Books and Higher Education
- d) Books for Research
- e) University Publishing
- f) Books in the Information Age
- g) Globalisation of Knowledge
- h) What Endures

Your contributions should reach the Editor latest by January 10, 1994.

RESEARCH IN PROGRESS

A list of research scholars registered for doctoral degrees in Indian Universities

SOCIAL SCIENCES

Library & Information Science

1. Abbas Khan Ashraf Ahmed. Citation analysis on the doctoral dissertations submitted to the Shivaji University, Kolhapur in pure sciences, (1962-92). Shivaji. Dr S R Gunjal, Prof and Head, Department of Library and Information Science, Gulbarga University, Gulbarga.

2. Abdul Majeed. K.C. An investigation into the role of university libraries in science and technology research in Kerala. Kerala. Dr G Devarajan, Department of Library and Information Science, University of Kerala, Trivandrum.

3. Jain, Vivekanand. Information needs and their fulfilment: A study of the users of libraries and information centres of M P. H S Gour. Dr R G Parashar, Dr Harisingh Gour Vishwa-vidyalaya, Sagar.

Psychology

1. Awasthi, Purnima. A study of some behavioural problems of tribal women in relation to their changing life style. BHU. Dr R C Mishra, Department of Psychology, Banaras Hindu University, Varanasi.

2. Dubey Sushil Kumar. Psychological analysis of voting behaviour in India. BHU. Dr M Arora, Department of Psychology, Banaras Hindu University, Varanasi.

3. Gupta, Alka. Coping style of adolescents as a function of personality, type of stressor and family environment. HP. Dr A S Sethi, Department of Psychology, Himachal Pradesh University, Shimla.

4. Hanumant Chand. Relationship of social and personal resources to mental health of adults. BHU. Dr M Arora, Department of Psychology, Banaras Hindu University, Varanasi.

5. Harveen Kaur. Stress-health relationship among medical professionals: Role of personality-hardiness coping and family support. HP. Dr A S Sethi, Department of Psychology, Himachal Pradesh University, Shimla.

6. Kaplaa, Naveen. Organisational role stress, type behaviour pattern, coping and psychological well-being. HP. Dr Sagar Sharma, Department of Psychology, Himachal Pradesh University, Shimla.

7. Rezaei, Azarmidokht. Psychosocial correlates of stress among patients with migraine. Panjab. Prof Jintendra Mohan, Department of Psychology, Panjab University, Chandigarh and Dr S Prabhakar, Prof, Department of Neurology, Postgraduate Institute of Medical Education and Research, Chandigarh.

8. Sain, Niti. Sexuality, self/body image and personality of Kinnauri tribal women, as related to education. HP. Dr (Mrs) K A Shirali, Department of Psychology, Himachal Pradesh University, Shimla.

9. Sarika. Relationship of some background factors, personality variables, life-style and traditional, non-traditional career choice among women in a casual model. HP. Dr A S Sethi, Department of Psychology, Himachal Pradesh University, Shimla.

10. Verma, Jaya. Self concept and family communication of Tibetan and Himachali adolescent girls. HP. Dr (Mrs) K A Shirali, Department of Psychology, Himachal Pradesh University, Shimla.

Sociology

1. Srivastava, Ajay Kumar. Ram Mohan Roy aur samajik parivartan: Bharatiya samaj ke parivartan ke sandarbha mein Raja Ram Mohan Roy ke yogdan ka samaj vaigyanik adhyayan. BHU. Prof O P Gupta, Department of Sociology, Banaras Hindu University, Varanasi.

Social Work

1. Janardan, Patrudkar Vilas. A study of labour productivity in powerloom industry in Solapur. Shivaji. Dr M S Makandar, Department of Social Work, Walchand College, Solapur.

Political Science

1. Shukla, Hardutt. Bhartiya rastrevad, dharma nirapekshata aur BJP. BHU. Dr T N Pant, Department of Political Science, Banaras Hindu University, Varanasi.

2. Tiwari, Mahendra Nath. Bhartiya rajniti mein Rajiv Gandhi ke bhumika. BHU. Dr D G A Khan, Department of Political Science, Banaras Hindu University, Varanasi.

3. Upadhyay, Suman. Uttar Pradesh Vidhan Sabha mein mahilayon ke bhumika, 1973 to 1992. BHU. Prof R H Sharan, Department of Political Science, Banaras Hindu University, Varanasi.

Economics

1. Archana Kumari. An evaluation of IRDP in Varanasi District. BHU. Dr Rajendra Rai, Department of Economics, Banaras Hindu University, Varanasi.

2. Khan, Mohd Aslam. Free interest banking: Its relevance to India. BHU. Dr S C Srivastava, Department of Economics, Banaras Hindu University, Varanasi.

3. Yadav, Prem Lata. Bharat mein krishi karadhan ke sambhavanayen. BHU. Dr A R Prasad, Department of Economics, Banaras Hindu University, Varanasi.

Law

1. Pareche, Anil Ratna. Lok sewayon mein arakshan sambandhi samvaidhanik upabandhon ka ek samajik evam vidhiya adhyayan: Bhartiya Samvidhan ke anuchhed 14, 16 evam 335 ke vishesh sandarbha mein tatha Mandal Ayog ke prativedan ke pariprekshya mein. Vikram. Dr G C Kaistwal, Govt Madhaw College, Ujjain.

2. Srivastava, Anur Nath. Right of accused in Indian laws. BHU. Prof C M Jariwala, Department of Law, Banaras Hindu University, Varanasi.

Education

1. Mohandas, C.K. Role of rural development department training programmes in developing human resource in Kerala. Kerala. Dr K Sivadasan Pillai, Director, Centre for Adult, Continuing Education and Extension, University of Kerala, Kariavattom.

Commerce

1. Shukla, Abhay Shankar. Profit planning in a competitive environment: A case study of ITI Ltd, Mankapur U P. BHU. Dr V S Singh, Department of Commerce, Banaras Hindu University, Varanasi.

2. Yadav, Ganesh Prasad. Hoshangabad kshetriya grameen bank ke karya pranali evam upalabdhiyon ka alochnatmak adhyayan. H S Gour. Dr J K Jain, Asstt Prof, Dr Hansingh Gour Vishwavidyalaya, Sagar.

Home Science

1. Das, Lipi. Mass Communication in women's development. BHU. Dr (Ms) Indira Bishnoi, Department of Home Science, Banaras Hindu University, Varanasi.

2. Khare, Neeta. The study of nutritional status of 1 to 6 year age group children of Sagar City. H S Gour. Dr P D Tewari, Department of Geography, Dr Hansingh Gour Vishwavidyalaya, Sagar.

Management

1. Rai, Ram Chandra. Appraisal of financial and other managements consultancy services available to small scale industries in India. BHU. Dr S K Singh, Faculty of Management Studies, Banaras Hindu University, Varanasi.

HUMANITIES

Philosophy

1. Dixit, Hirishkesh Pratap Rao. Mimansa darshan mein pratipadit Karm-Sidhant ke ek sameekshatmak adhyayan. BHU. Dr Kripa Shankar, Department of Philosophy and Religion, Banaras Hindu University, Varanasi.

2. Ojha, Gopal Krishna. Shankaradaitwa aur Shaktadaitwa: Ek tulanatmak adhyayan. BHU. Prof R R Pandey, Department of Philosophy and Religion, Banaras Hindu University, Varanasi.

3. Verma, Pramila. Vivekanand ka darshan. BHU. Prof R R Pandey, Department of Philosophy and Religion, Banaras Hindu University, Varanasi.

4. Yadav Ragnath. Jain darshan mein praman ke avadharana. BHU. Dr. Sagar Mal Jain, P V Jain Research Institute, Karaundi, Varanasi and Dr M R Mehta, Department of Philosophy, Banaras Hindu University, Varanasi.

Language & Literature

English

1. Baliga, G V Prasanth Kumar. The outsider in the poetry of Dom Moraes. BHU. Dr M S Pandey, Department of English, Banaras Hindu University, Varanasi.

2. Jha, Rabi Kumar. The novels of Chaman Nahak: A study in political consciousness. BHU. Dr B L Tripathi, Department of English, Banaras Hindu University, Varanasi.

3. Khanna, Monika. Experience and vision in the plays of Christopher Fry. BHU. Dr R K Shukla, Department of English, Banaras Hindu University, Varanasi.

4. Mandal, Shrabani. Education of the hero in the novels of Dickens and Thackeray. BHU. Dr S K Sinha, Department of English, Banaras Hindu University, Varanasi.

5. Mandhan, Shabnam. Tennyson and T S Eliot: A comparative appraisal. BHU. Dr Asha Biswas, Department of English, Banaras Hindu University, Varanasi.

6. Monga, Morinder. Portrayal of delusion in the novels of Anita Desai. BHU. Dr A Sircar, Department of English, Banaras Hindu University, Varanasi.

7. Phillips, Anupama M. Immigrant experience in recent Indo-Anglian fiction. BHU. Dr A Sircar, Department of English, Banaras Hindu University, Varanasi.

8. Prasad, Kolasani Rajendra. The poetry of Al Purdy. BHU. Dr Alka Nigam, Department of English, Banaras Hindu University, Varanasi.

9. Singh, Seema. Alice Walker : A critical study. BHU. Prof R S Sharma, Department of English, Banaras Hindu University, Varanasi.

Sanskrit

1. Lathika Kumari, B. Vedantasara Siddhartha Sarasangraha: An edition and study. Kerala. Dr Devaki Antherjanam, Sr Gr Lecturer, Department of Vedanta, Govt Sanskrit College, Trivandrum

2. Shah, Anjana. Sanskrit sahitya ka samanvayatmak adhyayan. BHU. Dr Saraswati Singh, Department of Sanskrit, Banaras Hindu University, Varanasi

Hindi

1. Acharya, Sandeep Kumar Bhartendu ke sahitya mein samajik chetna. HP. Dr C L Gupta, Department of Hindi, Himachal Pradesh University, Shimla.

2. Babu, J. Depiction of social consciousness in the novels of Rajendra Yadav. Kerala. Dr V V Viswam, Lecturer, University College, University of Kerala, Trivandrum.

3. Batabyal Jaya. Maila Anchal aur Ganadevata ka tulanatmak adhyayan. BHU. Dr Shiv Karan Singh, Department of Hindi, Banaras Hindu University, Varanasi.

4. Dile Ram. Vishnu Prabhakar ka katha sahitya. HP. Dr (Mrs) K Raina, Department of Hindi, Himachal Pradesh University, Shimla.

5. Dwain Singh. Shiv Prasad Singh ke katha sahitya mein samajik yatharth. HP. Dr (Mrs) Saraswati Bhalla, Department of Hindi, Himachal Pradesh University, Shimla.

6. Duni Chand. Asthven dshak ke Hindi upanyason mein yugeen parivesh. HP. Dr Anjana Chauhan, Department of Hindi, Himachal Pradesh University, Shimla.

7. Kalpna Rani. Vartman Hindi kavita : Kathya evam shilpa, 1980 se aaj tak. HP. Dr Krishan Kumar, Department of Hindi, Himachal Pradesh University, Shimla.

8. Kulwant Singh. Himachal Pradesh ke Brajbhasa kaviyon ke yogdan ka sameekshatmak adhyayan. HP. Dr Piyoush Guleri, Department of Hindi, Govt College, Dharamshala.

9. Meena Kumari Kathakar Rahul Sankrityayan ke samajik-itihasik drishti. HP. Dr Lallan Rai, Department of Hindi, Himachal Pradesh University, Shimla.

10. Mohanachandran, P R. Influence of Yashpal on the later Hindi novels. Kerala. Dr K Padmavathy, Principal, Govt College, Kariavattom.

11. Pandey, Laxmi. Swatantrayottar Hindi upanyason mein gramon ka swarup. H S Gour. Dr Usha Bhatnagar, Department of Hindi, Dr Harisingh Gour Vishwavidyalaya, Sagar.

12. Pandey, Manoj Kumar. Kabir ke lok kalyan chetana. BHU. Dr Surya Narayan Dwivedi, Department of Hindi, Banaras Hindu University, Varanasi.

13. Pandey, Subash Chhayavadi kavita mein rashtriyata ke bhavana. BHU. Dr Radhe Shyam Dubey, Department of Hindi, Banaras Hindu University, Varanasi.

14. Pandit, Sunita. Hazari Prasad Dwivedi aur Vidya Niwas Mishra ke atmaparak nibandhon ka tulnatmak adhyayan. HP. Dr (Mrs) Krishna Raina, Department of Hindi, Himachal Pradesh University, Shimla.

15. Partap Singh. Trilochan ka kavya : Jeewan bodh aur shilpa. HP. Dr Lallan Rai, Department of Hindi, Himachal Pradesh University, Shimla.

16. Rai, Sanjay. Nirala ke vyangdrishti : Rachnatmak hastakhep ke sandarbh mein. HP. Dr Anil Rakesh, Department of Hindi, Himachal Pradesh University Evening College, Shimla.

17. Sharma, Hari Ram. Nai kavita ke kaviyon ka kavyadarshan: Agyeya, Bharati, Saxena evam Sahay ke sandarbh mein. HP. Dr R N Mehta, Department of Hindi, Himachal Pradesh University Evening College, Shimla.

18. Singh, Amar Nath. Ramcharit Manas aur Kamban Ramayan: Ek tulnatmak adhyayan. BHU. Dr Shiv Karan Singh, Department of Hindi, Banaras Hindu University, Varanasi.

19. Singh, Chhaya Rani. Prasad aur Premchand ke katha sahitya mein isai samaj ka chitran : Ek anusheelan. H S Gour. Dr Rammati Diwaker, Department of Hindi, Dr Harisingh Gour Vishwavidyalaya, Sagar.

20. Singh, Shashi. Dwivedi yugeen alochana aur Acharya Ram Chandra Shukla. BHU. Prof N N Upadhyaya, Department of Hindi, Banaras Hindu University, Varanasi.

21. Sood Anjee. Bhagwati Charan Verma ke upanyason mein samajik chetna. HP. Dr Sri Ram Sharma, Department of Hindi, Himachal Pradesh University, Shimla.

22. Suresh Kumari. Upendranath Ashk ke upanyasan mein

samajik yatharth ka vishleshan. HP. Dr C L Gupta, Department of Hindi, Himachal Pradesh University, Shimla.

23. Thakur, Kashmir Singh. Harivansh Rai Bachchan ke kavya mein prem aur saundarya bhavana. HP. Dr (Mrs) Jogesh Kaur, Department of Hindi, Himachal Pradesh University, Shimla.

24. Ursam Lata. Kullui lok sahitya ke sanskritik prish-tabhami. HP. Dr C L Gupta, Department of Hindi, Himachal Pradesh University, Shimla.

Urdu

1. Rabibuddin. Masnaviyat-e-Meer : Tahqeeq-va-tadveen. BHU. Dr S H A Naqavi, Department of Urdu, Banaras Hindu University, Varanasi.

Bengali

1. Mahapatra, Kabita Das. Medinipurer upabhasa. BHU. Prof S N Das, Department of Bengali, Banaras Hindu University, Varanasi.

Tamil

1. Thangaval, R. A structural study of Tamil folk tales. BHU. Dr N A Bharati, Department of Indian Languages (Tamil), Banaras Hindu University, Varanasi.

Malayalam

1. Honey, P. Thachollippattukal : A critical study. Kerala. Dr V Gangadharan Nair, Sub-Editor, Malayalam Lexicon, University of Kerala, Trivandrum.

2. Ushakumari, B. Novalinte Kala-Uroobinte novalukale atisthanamakki oranweshanam. Kerala. Dr B Benjamin, Reader, Department of Malayalam, University of Kerala, Kariavattom.

Telugu

1. Bharani Kumar, J V S S. Life and works of Balavyasa Subrahmanya Sastri, Varanasi. BHU. Prof J S Prakasa Rao, Department of Telugu, Banaras Hindu University, Varanasi.

2. Pandey, Narayan. A comparative study of contribution of Prem Chand and Gurajada in social reformation. BHU. Dr J S Prakasa Rao, Department of Telugu, Banaras Hindu University, Varanasi.

Geography

1. Chattopadhyaya, Sangeeta. Perspectives of women's development in Varanasi District, U P : A geographical study. BHU. Dr J Singh, Department of Geography, Banaras Hindu University, Varanasi.

2. Gupta, Nisha Rani. Urbanization in Jharkhand Region of Bihar : A geographical analysis. BHU. Dr R B Singh, Department of Geography, Banaras Hindu University, Varanasi.

3. Jha, Sanjay Kumar. Landuse and planning in Madhubani District, Bihar. BHU. Dr P R Sharma, Department of Geography, Banaras Hindu University, Varanasi.

4. Mishra, Dhyanendra Kumar. Ground water resources of Barabanki District : A geographical study. BHU. Dr V K Rai,

Department of Geography, Banaras Hindu University, Varanasi.

5. Mukherjee, Sudepto. Resources and environmental management in Daltanganj Plateau, Bihar. BHU. Dr P R Sharma, Department of Geography, Banaras Hindu University, Varanasi.

6. Pandey, Ajai Kumar. Varanasi se Ballia ke beech Ganga dwara katav evam uska manav adhivas per prabhav : Ek bhaugolik adhyayan. BHU. Dr (Mrs) M Agrawal, Department of Geography, Banaras Hindu University, Varanasi.

7. Pandey, Anand Narain. Mau Janpad mein gramini adhishthanon ka rupantaran : Ek bhaugolik adhyayan. BHU. Dr V K Rai, Department of Geography, Banaras Hindu University, Varanasi.

8. Pandey, Sushama. Hydrogeomorphological investigation in parts of Sonbhadra District, based on remote sensing technique. BHU. Dr S P Mishra, Department of Geography, Banaras Hindu University, Varanasi.

9. Rai, Arun Kumar. A geohydrology and ground water resources of Sultanpur District, U P. BHU. Dr V K Rai, Department of Geography, Banaras Hindu University, Varanasi.

10. Rajeev Ranjan. Environmental impact and management in Coal Field, Singrauli. BHU. Prof Onkar Singh, Department of Geography, Banaras Hindu University, Varanasi.

11. Shukla, Arvind Kumar. Rural development and planning of Kasiya Block, District Deoria, U P. BHU. Dr P R Sharma, Department of Geography, Banaras Hindu University, Varanasi.

12. Singh, Anju. Gramin vikas karyakram ka prabhav : Barahani Vikas Khand ka bhaugolik adhyayan. BHU. Dr D N Singh, Department of Geography, Banaras Hindu University, Varanasi.

13. Singh, Mangal Prasad. Impact of agricultural innovations on landuse in Sasaram Tahsil : A study in geography. BHU. Dr R Y Singh, Department of Geography, Banaras Hindu University, Varanasi.

14. Singh, Shailendra Kumar. Uttari-purvi Madhya Pradesh uchcha bhumi mein nagari karan : Ek bhaugolik vishleshan. BHU. Dr B N Singh, Department of Geography, Banaras Hindu University, Varanasi.

15. Srivastava, Anuradha. Naugarh block mein Kharwar Janjati per paryavaran asantulan ka prabhav. BHU. Dr (Mrs) M Agrawal, Department of Geography, Banaras Hindu University, Varanasi.

16. Srivastava, Neena. A geographical study of problems and management of solid waste disposal : A case of Lucknow City. BHU. Dr V K Kumra, Department of Geography, Banaras Hindu University, Varanasi.

17. Tiwari, Lakshmi Kant. Urban housing problems in Agra City : A geographical study. BHU. Dr V K Kumra, Department of Geography, Banaras Hindu University, Varanasi.

18. Tiwari, Shao Muni. Changing socio-cultural and economic landscape in Bhabhus District, Bihar. BHU. Dr Hem Priya Devi, Department of Geography, Banaras Hindu University, Varanasi.

19. Tiwari, Uma Shekar. Geomorphological study of selected area. BHU. Prof N K P Sinha, Department of Geography, Banaras Hindu University, Varanasi.

History

1. Dayal, Chandrabhushan Sushil Kumar. Madhya Pradesh mein Swedish Protestant Missionariyon ke lekhen ka itihastik vivechan, san 1878 se 1978 tak. H S Gour. Dr D P Awasthi, Govt Post Graduate College, Chhindwara.

2. Dubey, Madhusudan. Pandit Jawaharlal Nehru evam unki dharam nirpeksha sambandhi avdharna. H S Gour. Dr M D Mishra, Govt College, Beena.

3. Durgesh Singh. Madhya Bharat kahetra mein adhanik shiksha ka vikas, 1951-56. H S Gour. Dr M P Pathak, Govt College, Sagar.

4. Eleswarupu, Sita Maha Lakshmi. A Paleonographic study of Satavahana inscriptions. BHU. Prof L K Tripathi, Department of Ancient Indian History, Culture and Archaeology, Banaras Hindu University, Varanasi.

5. Jaiswal, Sanjay. Puranon mein nar. BHU. Dr Mohd Nassem, Department of Ancient Indian History, Culture and Archaeology, Banaras Hindu University, Varanasi.

6. Jitendra Singh. Bharat mein punjivadi vikas, san 1918 se 1947 tak. H S Gour. Dr D C Sharma, Department of History, Dr Harisingh Gour Vishwavidyalaya, Sagar.

7. Manorama Devi. Jain kalan mein pratik chitran. BHU. Dr Hanhar Singh, Department of Ancient Indian History, Culture and Archaeology, Banaras Hindu University, Varanasi.

8. Nagendra Singh. Pratapgarh evam Jaunpur zilon ka puratatva. BHU. Prof P Singh, Department of Ancient Indian History, Culture and Archaeology, Banaras Hindu University, Varanasi.

9. Pandey, Kish. Parmars Munja and his times. BHU. Prof M Prasad, Department of Ancient Indian History, Culture and Archaeology, Banaras Hindu University, Varanasi.

10. Pandey, Ramanuj. Mahabharat ke istri patra. BHU. Prof L K Tripathi, Department of Ancient Indian History, Culture and Archaeology, Banaras Hindu University, Varanasi.

11. Pandey, Shri Prakash. Jahangir kaalen itihastik lekhan. BHU. Dr J Chaube, Department of History, Banaras Hindu University, Varanasi.

12. Singh, Ajay Shekhar. Kuber in Ancient India. BHU. Prof V C Srivastava, Department of Ancient Indian History, Culture and Archaeology, Banaras Hindu University, Varanasi.

13. Singh, Shiveshwar Kumar Prasad. Pradhan Magadh Samrajya vyavastha ka utkarsh evam upkaran, 6th century to 12th century A D. BHU. Prof L K Tripathi, Department of Ancient Indian History, Culture and Archaeology, Banaras Hindu University, Varanasi.

14. Soni, Harish Kumar. Mahakoshal mein rashtriya andolan : Subhadra Kumari Chauhan ke vishesh sandarbh mein. H S Gour. Dr M P Pathak, Govt College, Sagar.

THESES OF THE MONTH

A list of doctoral theses accepted by Indian Universities

SOCIAL SCIENCES

Psychology

1. Niranjan Reddy, K. Bhanamathi. A psychological investigation. Osmania.

Sociology

1. Dubey, Vijay Laxmi. Vishwavidyalayen prashaikiya evam shikshnik vyavastha ka adhyayan. HS Gour. Prof N K Gurha, Head, Department of Sociology, Dr Hari Singh Gour Vishwavidyalaya, Sagar

2. Goutham Rao, N. Socio-cultural factors of drug abuse in an urban community with special reference to Hyderabad. Osmania.

3. Kannabiran, Kalpana. Temple women in South India : A study in political economy and social history. JNU. Prof Yogendra Singh, Centre for the Study of Social Systems, Jawaharlal Nehru University, New Delhi

4. Syed Sami Ahmad. India's population : A demographic profile with special reference to urban areas, 1961-81. JNU. Prof M K Premi, Centre for the Study of Regional Development, Jawaharlal Nehru University, New Delhi.

Social Anthropology

1. Chattopadhyay, Arun Kumar. Religion magic with craft among the Kandha of Bataguda area of Phulbani District, Orissa. Culcutta.

2. Darkataki, Bandana. Child rearing practices and developmental status of children in some tribal communities of Assam Gauhati. Prof A C Bhagabati, Department of Anthropology, Gauhati University, Guwahati.

3. Mohanty, Bibhut Bhusan. Land alienation and depeasantisation in Orissa : A case study. Sambalpur. Dr P N Panda, P G Department of Anthropology, Sambalpur University, Jyoti Vihar, Burla.

Political Science

1. George, Mathews. Militarization and its impact on human rights in Southeast Asia with special reference to the Philippines, 1972-1986. Gandhi. Dr C V Cheriyan, Prof and Head (Retd), School of International Relations, Mahatma Gandhi University, Kottayam.

2. Karumanchi, Rajya Lakshmi. Transition to civilian rule in Brazil : Administration of Jose Sarney, 1985-1990. JNU. Prof R Narayanan, Center for American and West European Studies, Jawaharlal Nehru University, New Delhi.

3. Kumar, Ravi Bhushan. Coastal tourism and its ecological impact in third world countries : A case study of Western Coast of India. JNU. Prof R C Sharma, Centre for International Politics, Organization and Disarmament, Jawaharlal Nehru University, New Delhi.

4. Muthaiah, P. Reservations and recruitment : A study with special reference to scheduled castes in A P, 1981-1990. Osmania.

5. Narinder Kumar. The politics of intervention in international relations : A case study of US intervention in Nicaragua, 1979-88. JNU. Prof K P Misra, Centre for International Politics, Organization and Disarmament, Jawaharlal Nehru University, New Delhi.

6. Nigar Zuberi. A comparative study of the roles of India and U S A in the politics of Indian Ocean, 1986-91. AMU. Prof A P Sharma, Department of Political Science, Aligarh Muslim University, Aligarh.

7. Sharma, Ram Sewak. Gwalior Nagar Palika Nigam : Ek vyaktiparak adhyayan, 1983-1987 : A case study. Jiwa. Dr H S Dwivedi, Theosophical Lodge, Poohbagh, Gwalior.

8. Shrivastava, Nita. Sartre's theory of existentialism and its impact on modern political systems. Ghasidas. Dr B K Srivastava, C M D College, Bilaspur.

9. Soni, Rameshwar Prasad. Pt. Deen Dyal Upadhyaya ke ekatmak manavvad mein rajnitik arth vidhan ka adhyayan. Jiwa. Dr H S Dwivedi, Prof, Department of Political Science, M L B Arts and Commerce College, Gwalior.

10. Thangavelu, S P. Communist parties' understanding of the Indian State : A study of the Congress and Janata period, 1966-79. JNU. Dr Joya Hasan

Economics

1. Abnash Kaur. South Africa and Bantustans : Their economic relationship. Delhi.

2. Baruah, Manoshi. Communication and acceptability behaviour of farm women regarding rice farming and post-harvest technologies, PAU.

3. Bhagyalaxmi, V. Entrepreneurial growth and problems in small scale sector : A micro level study of the industrial units in Warangal District. Kakatiya. Dr (Mrs) N Vijaya, Department of Economics, Kakatiya University, Warangal.

4. Chandra Mouli, N. Regional cooperation among SAARC countries with special reference to trading pattern. Osmania.

5. Das, Keshabananda. Uneven development, Indian planning and the strategy of industrialisation : Case of Orissa. JNU. Dr T M Thomas Issac.

6. Gupta, Prakash Chandra. Nagariya Malwa ka Janankikiya adhyayan. Vikram. Dr R P Gupta, 6 Majapura, Rampura, District Mandasore.

7. Hablani, Sulochana. Madhya Pradesh mein vikrayakar : Ek adhyayan. Ravishankar. Dr Hanumant Yadav, Reader, School of Studies in Economics, Pt Ravishankar Shukla University, Raipur.

8. Kapase, Pandurang Mahadco. Differentials in resource

use structure and productivities of principal crops in different agro-climatic zones of Maharashtra. Mahatma Phule. Prof Jaganath Rao R Pawar, Department of Agricultural Economics, Mahatma Phule Krishi Vidyapeeth, Rahuri.

9. Khatiwada, Yuba Raj. Some aspects of monetary policy in Nepal. Delhi.

10. Kosta, Durgesh Babu. Bhartiya Andiyogik Vikas Bank : Sangathan, karyapranaali aur upalabdhiyon ka alochanatmak mulyankan. Durgawati. Dr D K Sinha, Prof, G S College of Commerce and Economics, Jabalpur.

11. Mehar, Shiblal. The growth of public revenue in Orissa : A time series analysis Sambalpur. Sri R S Rao, P G Department of Economics, Sambalpur University, Jyoti Vihar. Burla.

12. Pant, Kalpana. Rural labour market, agricultural development in Madhya Pradesh. Durgawati. Dr P D Hazela, 482 SFS Sector-A, Pocket-C. Vasant Kunj, New Delhi.

13. Pushpa Kumari. External debt, foreign exchange constraint and economic growth in developing countries. Kurukshetra.

14. Shetay, Sakharan Gangaram. A study of creativity in relation to personality factors of the students from agricultural university. Marathwada Agri. Dr G G Nandapurkar, Principal, Gramsevak Training Centre, Parbhani.

15. Singh, Ngangbam Narahari. The extent of adoption of improved rice practices by the scheduled caste farmers of Manipur. Manipur. Dr A Ibopishak Singh, Assoc Prof, Manipur Agricultural College, Iroishemba and Dr Rabin Sarmah, Assoc Prof, Assam Agricultural University, Jorhat.

16. Sohane, Radhe Shyam. Madhya Pradesh laghu evam shiksha krishak vikas karyakram : Jabalpur Jile ke vishesh sandarbh mein. Durgawati. Dr S N Dubey, Prof, G S College of Commerce and Economics, Jabalpur.

17. Syed Ajmal Pasha. Economics of small ruminants in droughtprone areas of Karnataka. Bangalore. Dr M V Nadkarni, Chairman, Institute for Social and Economic Change, Bangalore.

18. Vasanthu, R. Rural wage employment programme : An analytical study with particular reference to JRY in Andhra Pradesh. Osmania.

19. Velayudhan, K V. A study of industrial co-operatives in Kerala with special reference to modern small scale sector. CUST. Dr N Chandrasekharan Pillai, Prof, School of Management Studies, Cochin University of Science and Technology, Kochi.

20. Yadkikar, Damodar Ramchandra. Behavioural Impact of Krishi vigyan Kendras in Maharashtra : An analytical study Marathwada Agri. Dr G G Nandapurkar, Principal, Gramsevak Training Centre, Parbhani.

Law

1. Kazi Ashraf Unnisa. Promissory estoppel and contractual obligations : A study of the developing trends in England and in India. Bangalore. Dr V B Coutinho, Principal and Dean, University Law College, Palace Road, Bangalore University, Bangalore.

2. Prasanna, A. Forest and the law : Problems and perspectives. CUST. Dr N S Chandrasekharan, Prof and Head, Department of Law, Cochin University of Science and Technology, Kochi.

3. Raina, Bal Krishan. Administration of civil and criminal

justice through panchayat adalats in State of Jammu & Kashmir. Jammu. Dr B P S Sehgal, Department of Law, University of Jammu, Jammu.

4. Soman, N S. Land reforms : Law and social mores. CUST. Dr G Sadasivan Nair, Reader, Department of Law, Cochin University of Science and Technology, Kochi.

5. Venkata Rao, Rambhatla. Prisoners rights and judicial process : A critique. Andhra.

Public Administration

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of instructional material for selected aspects of children's clothing course. Baroda.

2. Sharma, Rekha Ratanlal. Nutritional evaluation and storage studies of wheat. Nagpur. Dr (Mrs) S A Valli, Lecturer, Department of Home-Science, Nagpur University, Nagpur and Dr (Mrs) P N Shastri, Reader, Department of Food Technology, Laxminarayan Institute of Technology, Nagpur University, Nagpur.

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Das, Prabin Chandra. V Venkata Rao : The person extraordinary. The Assam Tribune 9.11.93.

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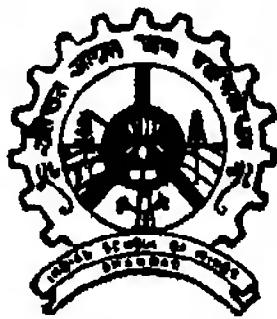
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Journal of Educational Planning and Administration

Editor : Jandhyala B.G. Tilak

Volume VII

Number 3

July 1993

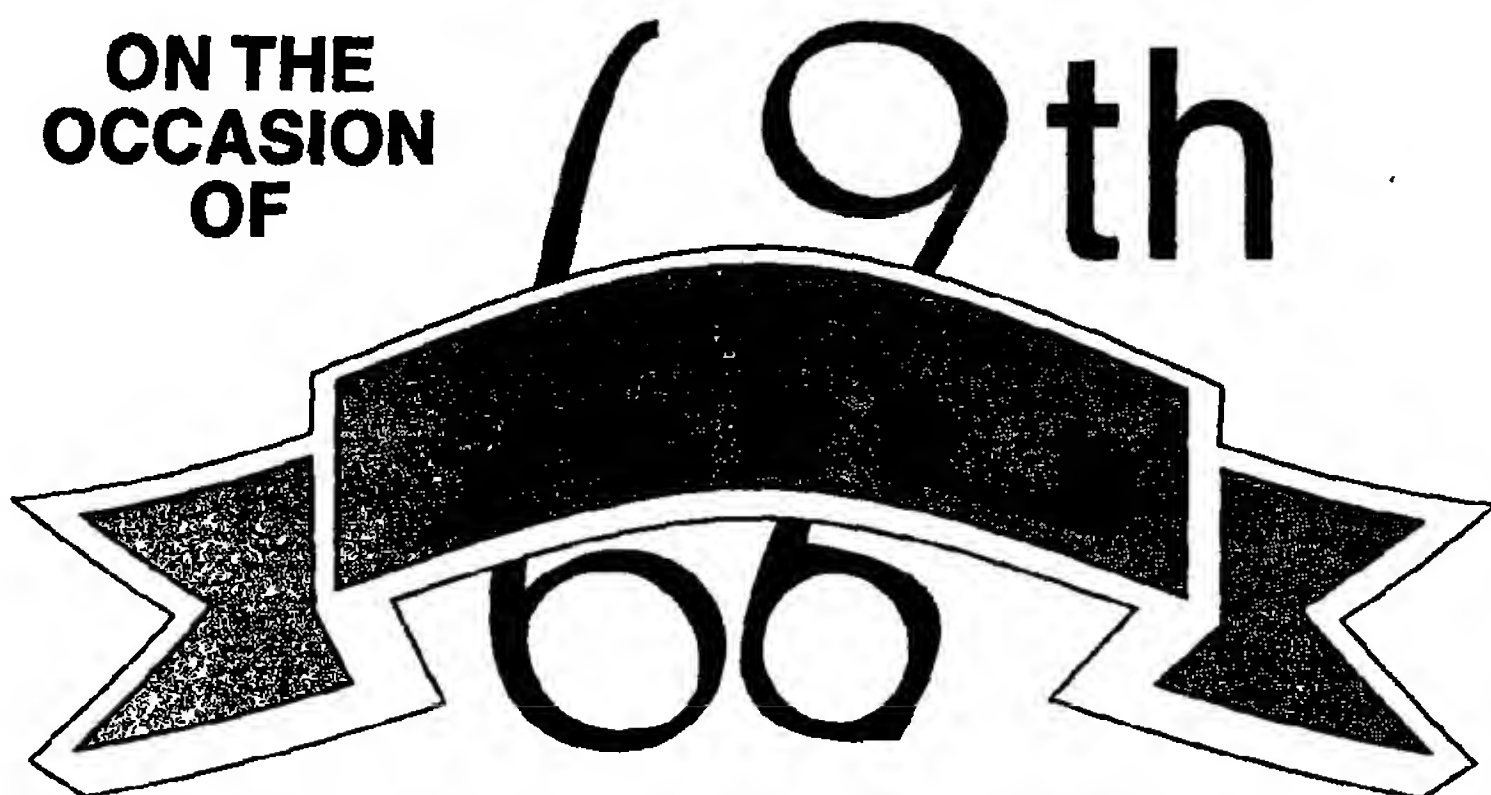
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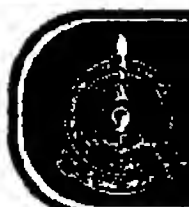


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